

# GUIDE TO SHELLS OF PAPUA NEW GUINEA

**Alan Hinton**





Researchers are gradually solving taxonomic problems and anomalies so there will be name changes from time to time. Particularly as the work of early authors is painstakingly reviewed, and as anatomical studies resolve the true relationship of similar species.

The amateur collector can often assist by recording with each specimen such pertinent data as locality, description of habitat, date, and other relevant comments.

The mollusc plays an important role in the balance of the marine environment, so collect only the shells required to fill a gap in the cabinet. Return surplus shells, aged and eroded specimens and any shells unsuitable for display, to the environ from whence they came. The eroded and aged shells are fully adult and may help in propagating the species.





By 6/5

Top & centre: *Cypraea valentia* Perry.  
Bottom: *Cypraea guttata* Gmelin.



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# **GUIDE TO SHELLS OF PAPUA NEW GUINEA**

**68 Colour Plates illustrating  
over 1,450 individual Shells  
representing 950 distinct Species.**

**Colour photographs by the author  
Alan Hinton**



## INTRODUCTION

The Papua New Guinea shorelines are established on an extension of the Australian continental shelf, a mere fourteen fathoms separating the two land masses, with the result that the southern coast of Papua New Guinea shares a wide variety of molluscan species with tropical north Australia. Papua New Guinea lies entirely in the tropics between 2 degrees and 10 degrees south latitude on a south-western projection of the Indonesian chain of islands, and could be described as the geographical centre or 'eye' of the vast Indo-Pacific Province.

To the south-east of the main island, the Louisiade Archipelago, D'entrecasteaux, Trobriand and Woodlark Islands, cover thousands of square miles dotted with large and small islands and sand cays and luxuriant coral reefs. The northern coast line and most of the shores of the larger offshore islands of the Bismarck Archipelago are mainly fringed with narrow coral reefs and rocky headlands, and the sea bottom drops rapidly to depths of nearly 1,000 metres. The Admiralty Group contains the large island of Manus and numerous small islands and cays, and vast expanses of coral reefs. Bougainville and Buka Islands, geographically the northernmost larger islands of the Solomon Island Chain, comprise a province of Papua New Guinea. On these islands may be found certain mollusc species, particularly land snails, that are otherwise endemic to the Solomon Islands.

In recent years trawl net fisheries have been the source of supply of many deep water shell specimens. In Papua New Guinea the reef strewn waters are a hazard in such operations in all but a few isolated areas, so dredging and scuba diving remain the only means of sampling the molluscan fauna from below the tide levels.

Despite considerable research several shells illustrated in this guide remain nameless. They exemplify the untapped potential of the offshore seabeds in Papua New Guinea.

Previously under the administration of the Commonwealth of Australia, Papua New Guinea peacefully and proudly became independent in 1975. Although the country has a population of less than three million it is by far the largest of the South Pacific island nations.

Shells play an important role in the culture and daily lives of the Papua New Guineans. In many coastal villages shells are a dependent food source. Various forms of shell currency were the vogue before the introduction of western culture and shells and shell ornaments are still traded and used on ceremonial occasions. Illustrated on the back cover are a few examples of shell handicrafts.

Papua New Guineans are aware of the lucrative business opportunities existing in the exploitation of shells as collector's specimens and the government is sponsoring and assisting in the development of such trade but sensibly keeping a watchful eye on conservation and ecology.

*The purpose of this handbook is to present a reasonably priced GUIDE to identification of Papua New Guinean shells by colour illustration.*

Descriptive text is brief, but comments have been made in many instances regarding locality and distribution, and included are some useful hints on separating similar species.

Considering the limitations imposed by the space and cost factors, the author has endeavoured to illustrate as many as possible of the species and families of molluscs of most interest to collectors — families of the classes *Gastropoda* and *Cephalopoda*.





By 1/2

**FAMILY HALIOTIDAE.** The abalone shells of the warm tropical seas are much smaller, and fewer in species numbers, than their relatives from the temperate zones where several of the larger species are collected for their succulent flesh.

1. *Haliotis asinina* LINNAEUS. Common.
2. *Haliotis ovina* GMELIN. Common.
3. *Haliotis varia* LINNAEUS. Common and extremely variable, some forms with brilliant colour patterns.
4. *Haliotis crebrisculpta* SOWERBY. Uncommon in P.N.G.

**FAMILY ARCHITECTONICIDAE.** The larger of the sundials are usually found below the tidal influence in sand, but occasionally may be collected on beaches.

5. *Architectonica maxima* PHILIPPI. Common offshore. Teeth about the winding umbilicus are white to creamy-yellow.

6. *Architectonica perdix* HINDS. Common. Slightly smaller than previous species. Teeth about the open umbilicus are white.
7. *Architectonica perspectiva* LINNAEUS. Common. Teeth about the umbilicus are reddish-brown.
8. *Architectonica modesta* PHILIPPI. Moderately rare in live condition. Figured specimens from New Britain. Teeth about the open umbilicus are white to flesh coloured.
9. *Philippia radiata* RÖDING. Common in shallow water.
10. *Torinia variegata* GMELIN. Common in shallow water.





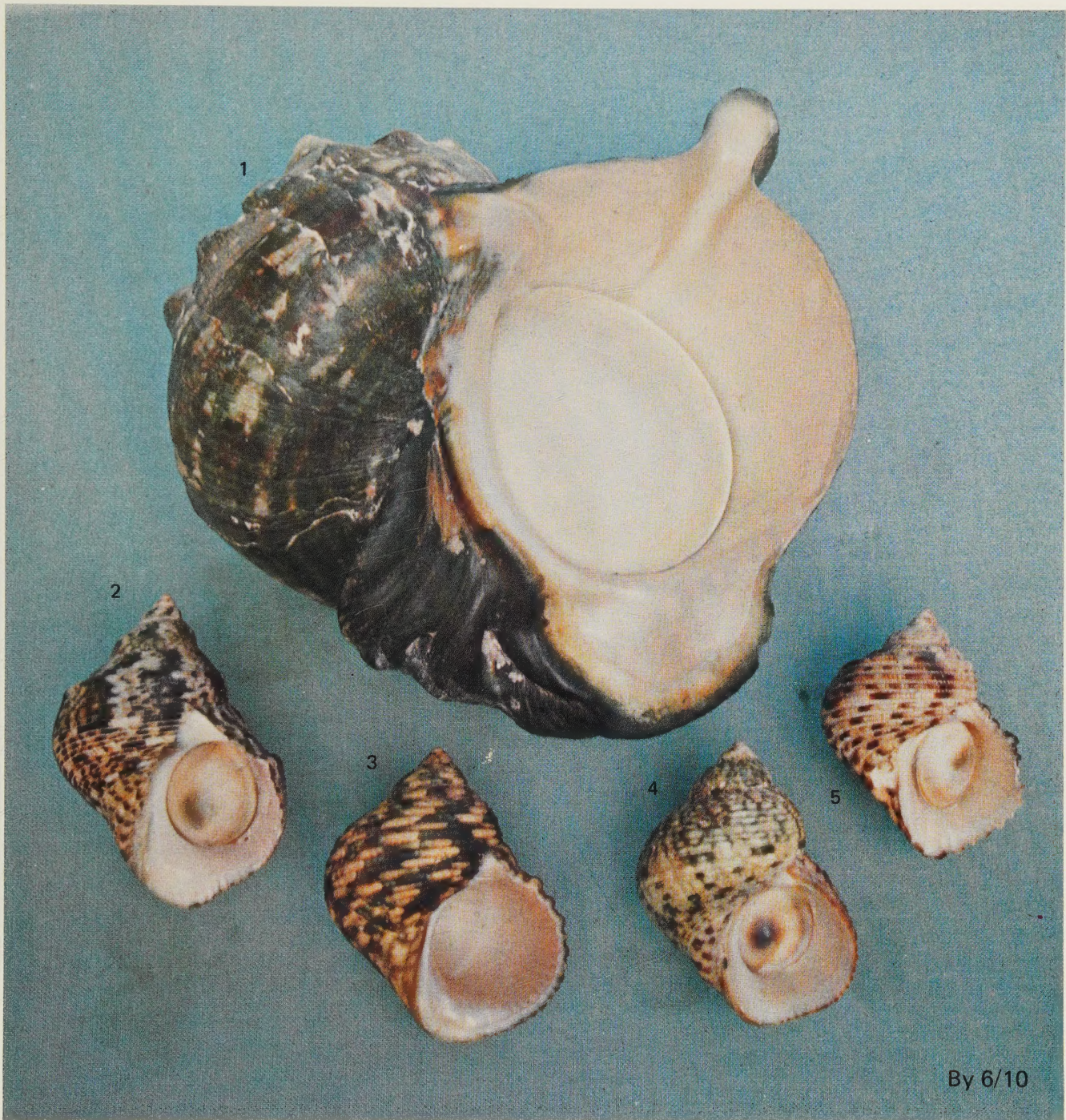
By 8/10

**FAMILY TROCHIDAE.** The top shells. The largest of this group, *Trochus niloticus*, is collected commercially for the manufacture of buttons and ornamental trinkets.

1. *Trochus niloticus* LINNAEUS. Common.
2. *Trochus lineatus* LAMARCK. South coast of P.N.G. but not common.
3. *Trochus maculatus* LINNAEUS. Common.
4. *Trochus incrassatus* LAMARCK. Common.
5. *Trochus conus* GMELIN. Uncommon.
6. *Trochus verrucosus* GMELIN. Rather scarce.
7. *Trochus tentorium* GMELIN. Specimens recorded from Torres Strait and New Britain. Appears very scarce.
8. *Trochus laciniatus* REEVE. Common and extremely variable.

9. *Tectus pyramis* BORN. Common.
10. *Tectus tubiferus* KIENER. Reasonably common.
11. *Tectus fenestratus* GMELIN. Reasonably common.
12. *Tectus triserialis* LAMARCK. Not common.
13. *Tectus obesus* REEVE. Uncommon.
14. *Angaria delphina* LINNAEUS. A common and variable species.
15. *Clanculus clanguloides* WOOD. Common.
16. *Clanculus margaritarius* PHILIPPI. Common.
17. *Euchelus atratus* GMELIN. Common.
18. *Thalotia arruense* WATSON. Common.
19. *Chrysostoma paradoxum* BORN. Common.





By 6/10

**FAMILY TURBINIDAE.** The turban shells. *Turbo marmoratus*, the commercial 'green snail', belongs to this family. Another well known and attractive member is the 'tapestry turban', *Turbo petholatus*. The beautiful 'green cat's eye' is the operculum of this shell. All turbans have solid calcareous opercula.

1. *Turbo marmoratus* LINNAEUS. Once abundant on coral reefs, heavy commercial collecting has drastically reduced the populations of this shell and it is now rather scarce in most areas. Prefers a reef face exposed to the open sea.

2. *Turbo crassus* WOOD. Reasonably common. Body whorl strongly shouldered.

3. *Turbo setosus* GMELIN. Reasonably common. Aperture very large; body whorl rounded and not shouldered.

4. *Turbo sparverius* GMELIN. Common some areas. Body whorl not shouldered. Aperture smaller and spire more produced than *T. setosus*.

5. *Turbo argyrostomus* LINNAEUS. Reasonably common. Angulate and shouldered.





FAMILY TURBINIDAE — continued.

1. *Turbo chrysostomus* LINNAEUS. Common and extremely variable. Fig. 1 is typical form which has spinose spiral cords; figs. 1a & 1b are variations. Odd specimens are comparatively smooth. Usually an attractive orange-gold within aperture.
2. *Turbo petholatus* LINNAEUS. The common tapestry turban is attractively but variably ornamented. The colourful operculum or 'door' is used in costume jewelry.
3. *Turbo cinereus* BORN. Common. Colour variable. Base of columella usually produced into a callused lobe.
4. *Turbo necnivosus* IREDALE. Reasonably common. Resembles a small *T. chrysostomus* with a blush of yellow-gold in the aperture on columella side.
5. *Astraea rhodostoma* LAMARCK. Common on coral reefs.
6. *Astraea calcar* LINNAEUS. Abundant on reefs.
7. *Liotina peronii* KIENER. Common in coral debris on reefs.
8. *Guildfordia triumphans* PHILIPPI. Moderately common in dredgings and trawl nets.





By 9/10

**FAMILY JANTHINIDAE.** The violet snails are often found on beaches after storms. They float on the ocean surface with the aid of an air sac.

1. *Janthina janthina* LINNAEUS. Found in all oceans.

**FAMILY EPITONIIDAE.** The wentletraps live in association with anemones.

2. *Epitonium scalare* LINNAEUS. Offshore in moderately deep water.
3. *Epitonium pallasi* KIENER. Uncommon. Specimens dredged in Gulf of Papua and off Sepik River.
4. *Cirsotrema varicosa* LAMARCK. Uncommon. Shallow to moderately deep water.
5. *Amaea magnifica* SOWERBY. Scarce in P.N.G. Figured specimen from 35 metres near Rabaul in New Britain.

**FAMILY LITTORINIDAE.** The periwinkles. Often found in colonies at and above high water level on rocks and mangroves.

6. *Tectarius pagodus* LINNAEUS. Common.
7. *Tectarius tectumpersicum* LINNAEUS. Common in some localities.
8. *Tectarius grandinatus* GMELIN. Less common than previous species.

9. *Echinus cumingii* PHILIPPI. Abundant along south coast of P.N.G.

10. *Littorina undulata* GRAY. Common.
11. *Littorina coccinea* GMELIN. Common on mangroves and wharf piles.
12. *Littorina scabra* LINNAEUS. Abundant on mangroves and may be found up to ten metres above water level. Colour extremely variable.
13. *Nodilittorina millegrana* PHILIPPI. Very common.

**FAMILY PLANAXIDAE.** Members of this family are similar to, and share the habitat with, the true periwinkles.

14. *Planaxis sulcatus* BORN. Common.

**FAMILY MODULIDAE.**

15. *Modulus tectum* GMELIN. Reasonably common.

**FAMILY TURRITELLIDAE.** These shells resemble the terebrids but have more rounded whorls and a simple, almost circular, aperture.

16. *Turritella terebra* LINNAEUS. Common offshore.
17. *Haustator cingulifera* SOWERBY. Common in sandy mud sediment in deeper water.





By 7/10

**FAMILY POTAMIDIDAE.** The mud-whelks or creepers.

1. *Cerithidea largillierti* PHILIPPI. Reasonably common in Gulf of Papua.
2. *Telescopium telescopium* LINNAEUS. Abundant on mud banks and in swamps.
3. *Terebralia palustris* LINNAEUS. Common in mud among mangroves. Fig. 3a is a juvenile.
4. *Terebralia sulcata* BORN. Common.
5. *Cerithidea anticipata* IREDALE. South P.N.G. coast and north Aust. Reasonably common.

**FAMILY CERITHIIDAE.** The sand creepers prefer sand patches in coral reefs, in shallow water.

6. *Cerithium nodulosum* BRUGUIERE. Very common.
7. *Rhinoclavis fasciatus* BRUGUIERE. Common. Extremely variable in colour pattern.
8. *Cerithium aluco* LINNAEUS. Common.

9. *Rhinoclavis vertagus* LINNAEUS. Very common species.
10. *Rhinoclavis asper* LINNAEUS. Very common.
11. *Clypeomorus tuberculatus* LINNAEUS. Very common.
12. *Clypeomorus trillii* SOWERBY. Common.
13. *Clypeomorus zonatus* WOOD. Reasonably common.
14. *Rhinoclavis sinensis* GMELIN. Common.
15. *Rhinoclavis brettehami* CERNOHORSKY. Uncommon. Superficially resembles *R. sinensis*.
16. *Cerithium echinatum* LAMARCK. Reasonably common.
17. *Cerithium columna* SOWERBY. Common.
18. *Rhinoclavis articulatus* ADAMS & REEVE. Not common.
19. *Cerithium novaehollandiae* SOWERBY. Reasonably common. North Aust. and P.N.G. Colour variable.





By 6/10

**FAMILY XENOPHORIDAE.** The carrier shells attach stones, sand, other shells and shell fragments to their own shells. They are usually found below the tidal influence and often in quite deep water.

1. *Xenophora pallidula* REEVE. P.N.G. to Philippines, in moderately deep water.
2. *Xenophora torrida* KURODA. Scarce most areas but more readily found offshore in New Britain.
3. *Xenophora solarioides* REEVE. Taken in numbers by prawn trawl nets along south coast of P.N.G. and in northern Aust.

4. *Xenophora calculifera* REEVE. Offshore, Gulf of Papua and north Aust. Has small debris attached along the suture line.
5. *Xenophora exuta* REEVE. Common offshore in Gulf of Papua. Usually free of attachments but odd shells have sand along the suture lines. The extended and scalloped periphery is typical of this species.
6. *Xenophora peroniana* IREDALE. East coast Aust. to P.N.G.





By 1/3

**FAMILY STROMBIDAE.** The strombs, conches, spider shells and tibias. A characteristic feature of strombs is a well developed notch in the lip at the anterior end. This group includes some of the largest and most decorative shells. Most species prefer the shallow reefs and sand patches.

1. *Strombus lentiginosus* LINNAEUS. Abundant. Fig. 1a is a juvenile shell.
2. *Strombus sinuatus* LIGHTFOOT. A lovely shell and not common.
3. *Strombus thersites* SWAINSON. Moderately rare. Figured specimen from Moturina Is. in the Milne Bay Province.
4. *Strombus latissimus* LINNAEUS. Scarce in P.N.G. waters. Figured specimen collected in Admiralty Group.

5. *Lambis crocata* LINK. Uncommon. Don't confuse with the common spider shell, *L. lambis*.
6. *Lambis lambis* LINNAEUS. Abundant.
7. *Lambis scorpius* LINNAEUS. The scorpion shell. Not common.
8. *Lambis truncata sebae* KIENER. Reasonably common on reefs below the tidal influence.
9. *Lambis chiragra* LINNAEUS. Common in some areas. Fig. 9 is a typical female and fig. 9a illustrates the strongly lirate aperture of the male specimen.
10. *Lambis millepeda* LINNAEUS. Common some localities.





By 2/3

## FAMILY STROMBIDAE — continued.

1. *Strombus pipus* RÖDING. Uncommon.
2. *Strombus epidromis* LINNAEUS. Uncommon.
3. *Strombus campbelli* GRIFFITHS & PIDGEON. Reasonably common in Gulf of Papua. Resembles *S. vittatus* but shares habitat with that species with no indication of interbreeding.
4. *Strombus vittatus* LINNAEUS. An offshore species in moderately deep water. Uncommon.
5. *Strombus variabilis* SWAINSON. Colour decoration very variable.
6. *Strombus labiosus* WOOD. Uncommon offshore.
7. *Strombus marginatus septimus* DUCLOS. Reasonably common.
8. *Strombus plicatus* RÖDING. The specimen depicted in fig. 8 is typical of shells from Samarai and the Gulf of Papua. Figs. 8a & 8b illustrate the New Britain form. These appear distinct but there is evidence of intergrading between the locality forms.
9. *Strombus mutabilis* SWAINSON. Colour extremely variable with names applied to some forms. Common.
10. *Strombus dentatus* LINNAEUS. Uncommon. Note the small spines at anterior end of lip.
11. *Strombus fragilis* RÖDING. Uncommon. Resembles previous species but is smoother and lacks the spines on lip.
12. *Strombus terebellatus* SOWERBY. A rather scarce shell. Resembles *S. fragilis* but it is a narrower shell with less expanded outer lip.
13. *Strombus labiatus* RÖDING. Common. Colour variable.
14. *Strombus erythrinus* DILLWYN. Common species.
15. *Strombus microurceus* KIRA. Very common.
16. *Strombus wilsoni* ABBOTT. The slender form illustrated by fig. 16 is typical shell from south coast of P.N.G. and north Aust., and fig. 16a depicts the Rabaul and Pacific Islands form. Uncommon.





By 7/10

## FAMILY STROMBIDAE — continued.

1. *Strombus aurisdianae* LINNAEUS. A common shell.
2. *Strombus aratrum* RÖDING. Uncommon in P.N.G.
3. *Strombus bulla* RÖDING. Common in islands of the Bismarck Archipelago.
4. *Strombus dilatatus* SWAINSON. Uncommon in deeper water offshore.
5. *Strombus kleckhamae* CERNOHORSKY. These are dead shells from semi-fossil beds in New Britain. Recently a live specimen was collected from deep water in the Solomon Islands. Rare.
6. *Strombus canarium* LINNAEUS. Figs. 6 & 6a depict the common form. Fig. 6b is a common variant. Fig. 6c is a scarce all-white or albino form and fig. 6d depicts a large form with stepped spire which occurs in the Admiralty Group.
7. *Strombus luhuanus* LINNAEUS. Abundant. A popular food in coastal villages.
8. *Strombus gibberulus gibbosus* RÖDING. Very common.
9. *Strombus minimus* LINNAEUS. Uncommon some localities but abundant in the Bismarck Archipelago.
10. *Strombus urceus* LINNAEUS. Common.
11. *Strombus haemastoma* SOWERBY. Uncommon.
12. *Terebellum terebellum* LINNAEUS. Common. Colour pattern variable.
13. *Varicospira cancellata* LAMARCK. Uncommon most areas but reasonably common in deeper water off New Britain.
14. *Tibia powisi* PETIT. Uncommon. Occasional specimens taken in trawl nets in moderately deep water.





By 7/10

**FAMILY CYPRAEIDAE.** The colourful and highly polished cowries need no introduction. They have always been favourites with collectors. The warm seas lapping the shores, islands and coral reefs of Papua New Guinea are rich in cowries, and some of the rarest species have been found in these waters. Two very rare cowries are illustrated inside the front cover.

1. *Cypraea arabica* LINNAEUS. Very common shell.
2. *Cypraea eglantina* DUCLOS. Common. Similar to previous species, but more elongate and with rounded margins.
3. *Cypraea histrio* GMELIN. Appears restricted in P.N.G. to the southern coastline and is uncommon.

4. *Cypraea mauritiana* LINNAEUS. A large, heavy and shiny shell. Common.
5. *Cypraea mappa* LINNAEUS. Uncommon. Popular collector's item.
6. *Cypraea depressa* GRAY. Uncommon. A small solid shell with expanded margins, almost circular in shape.
7. *Cypraea talpa* LINNAEUS. Reasonably common throughout P.N.G. but less common most other areas.
8. *Cypraea scurra* GMELIN. Uncommon.
9. *Cypraea testudinaria* LINNAEUS. Uncommon.





By 6/10

## FAMILY CYPRAEIDAE — continued.

1. *Cypraea vitellus* LINNAEUS. Very common.
2. *Cypraea tigris* LINNAEUS. Very common in shallow water.
3. *Cypraea argus* LINNAEUS. Uncommon.
4. *Cypraea lynx* LINNAEUS. Common.
5. *Cypraea carneola* LINNAEUS. Common.
6. *Cypraea miliaris* GMELIN. Reasonably common. Fig. 6b is *forma eburnea* Barnes, an uncommon all-white or albino variety.
7. *Cypraea isabella* LINNAEUS. Common.
8. *Cypraea subviridis* REEVE. A common shell in Australia, this species has been recorded from Daru to Port Moresby in P.N.G. Fig. 8a depicts the varietal form from north-west Australia, *forma dorsalis* Schilder & Schilder.
9. *Cypraea xanthodon* SOWERBY. Common species in Queensland and reported occurring near Daru in P.N.G. but the author is unable to confirm the Daru occurrence.
10. *Cypraea pyriformis* GRAY. Uncommon. Note the fine red teeth on columella.





By 3/4

## FAMILY CYPRAEIDAE — continued.

1. *Cypraea erosa* LINNAEUS. Abundant.
2. *Cypraea caurica* LINNAEUS. Common.
3. *Cypraea chinensis* GMELIN. Uncommon.
4. *Cypraea helvola* LINNAEUS. Common.
5. *Cypraea annulus* LINNAEUS. Most abundant.
6. *Cypraea moneta* LINNAEUS. Abundant.
7. *Cypraea caputserpentis* LINNAEUS. Very common.
8. *Cypraea errones* LINNAEUS. Common.
9. *Cypraea ovum* GMELIN. Common in some localities.
10. *Cypraea cylindrica* BORN. Uncommon.
11. *Cypraea quadrimaculata* GRAY. Uncommon.
12. *Cypraea poraria* LINNAEUS. Uncommon.
13. *Cypraea asellus* LINNAEUS. Common.
14. *Cypraea clandestina* LINNAEUS. Reasonably common.
15. *Cypraea felina* GMELIN. Reasonably common.
16. *Cypraea ziczac* LINNAEUS. Uncommon.
17. *Cypraea labrolineata* GASKOIN. Reasonably common.





By 8/10

## FAMILY CYPRAEIDAE — continued.

1. *Cypraea pulchella* SWAINSON. Figured specimen from Taiwan, illustrated here for comparison with fig. 2.
2. *Cypraea pulchella novaebritanniae* SCHILDER & SCHILDER. Ventral view of this rare subspecies. Figured specimen is a dead shell. Refer to previous figure.
3. *Cypraea teres* GMELIN. Reasonably common.
4. *Cypraea cernica* SOWERBY. Uncommon in P.N.G.
5. *Cypraea childreni* GRAY. Moderately rare, Bismarck Archipelago.
6. *Cypraea walkeri* SOWERBY. Reasonably common.
7. *Cypraea bregeriana* CROSSE. Uncommon in live condition.
8. *Cypraea coxeni* COX. Uncommon.
9. *Cypraea hesperina* SCHILDER & SUMMERS. Uncommon. Figured specimens from west New Britain. The author has collected similar shells in three widely separated localities, sharing the habitat with *C. coxeni* (depicted by fig. 8), with no indication of intergrading forms. Anatomical study will be necessary to establish the true relationship.

10. *Cypraea cribraria* LINNAEUS. Uncommon.
11. *Cypraea catholicorum* SCHILDER & SCHILDER. Moderately rare in P.N.G.
12. *Cypraea humphreysii* GRAY. Collected only rarely along south coast of P.N.G. from Daru to Port Moresby.
13. *Cypraea lutea* GMELIN. Throughout P.N.G. but not common.
14. *Cypraea mariae* SCHILDER. Occurs rarely in Bismarck Archipelago and Bougainville Is.
15. *Cypraea irrorata* GRAY. Moderately rare.
16. *Cypraea contaminata* SOWERBY. A scarce shell. Figured specimen from Bougainville Is.





Nat. size

## FAMILY CYPRAEIDAE — continued.

1. *Cypraea saulae* GASKOIN. Moderately rare.
2. *Cypraea gracilis* GASKOIN. Common.
3. *Cypraea stolidus* LINNAEUS. Uncommon.
4. *Cypraea brevidentata* SOWERBY. Uncommon. South coast of P.N.G.
5. *Cypraea bistrinotata* SCHILDER & SCHILDER. Uncommon. Dorsum granulated, with three pairs of spots; base with two pairs of spots.
6. *Cypraea cicercula* LINNAEUS. Not common. Granulated and with fine scattered spots on dorsum but lacking paired spots.
7. *Cypraea margarita* DILLWYN. Uncommon. Dorsum comparatively smooth and polished; teeth shorter than *C. cicercula* which this species superficially resembles.
8. *Cypraea globulus* LINNAEUS. Uncommon. Dorsum smooth; base with two pairs of spots.
9. *Cypraea limacina* LAMARCK. Reasonably common.
10. *Cypraea kieneri* HIDALGO. Ovate and slightly depressed; teeth extend to margin on columella posteriorly but are short anteriorly. Common.
11. *Cypraea hirundo* LINNAEUS. Sub-cylindrical; teeth extend across base evenly and almost to margins.
12. *Cypraea ursellus* GMELIN. Pyriform; teeth extend nearly to margins and over the margins at posterior extremity. Uncommon.
13. *Cypraea pallidula* GASKOIN. Reasonably common.
14. *Cypraea nucleus* LINNAEUS. Not common.
15. *Cypraea staphylaea* LINNAEUS. Common.
16. *Cypraea hammondae* IREDALE. Uncommon. Ovate in shape, aperture expanded anteriorly.
17. *Cypraea fimbriata* GMELIN. Uncommon. Elongate-ovate; aperture very wide anteriorly.
18. *Cypraea minoridens* MELVILL. Common. Ovate in shape and slightly depressed; aperture only slightly wider at anterior end.
19. *Cypraea microdon* GRAY. Scarce. Pyriform. Aperture narrow for entire length.
20. *Cypraea punctata* LINNAEUS. Uncommon.
21. *Cypraea becki* GASKOIN. Moderately rare.





By 8/10

#### FAMILY CYPRAEIDAE — continued.

1. *Cypraea ventriculus* LAMARCK. Scarce shell in P.N.G. Figured specimen from Siassi Is., off west New Britain.
2. *Cypraea aurantium* GMELIN. Moderately rare. Popular shell in the collector's cabinet. Occasional specimens collected in Admiralty Group, islands of the Bismarck Archipelago and Bougainville Is.
3. *Cypraea onyx melanesiae* SCHILDER & SCHILDER. Uncommon.

**FAMILY OVULIDAE.** The egg and spindle cowries are not true cowries. They lack the regular toothed aperture of the cowries, some species being denticulate on the outer lip only.

4. *Ovula ovum* LINNAEUS. The common egg cowries are dark chocolate-brown inside the aperture.
5. *Volva volva* LINNAEUS. The spindle cowry. A common offshore species.
6. *Calpurnus verrucosus* LINNAEUS. Common. Often found in colonies on soft leathery corals exposed at low tide.
7. *Ovula costellata* LAMARCK. Uncommon. The pale rosy-pink interior, smaller size and a roundly shouldered spiral ridge readily separates this species from the more common *O.ovum*.





By 1/2

**FAMILY CASSIDAE.** The helmet shells and bonnets.

1. *Cassis cornuta* LINNAEUS. The giant helmet shell. Common in most areas. The shiny columella shield and broadly flattened outer lip edge make this shell an ideal ornament.
2. *Cypræocassis rufa* LINNAEUS. Uncommon. The orange-red base is most decorative.

3. *Phalium bandatum* PERRY. Reasonably common.
4. *Phalium glaucum* LINNAEUS. Uncommon. More swollen-ovate than previous species, and has three or four spines on anterior section of outer lip.





By 2/3

# FAMILY CASSIDAE — continued.

1. *Phalium areola* LINNAEUS. Common. Like a small form of *P.bandatum*, but lacking the shoulder nodules of that species.
2. *Casmaria erinaceus* LINNAEUS. Common and extremely variable. Fig. 2 has smooth shoulders; fig. 2a has row of nodules at shoulder; fig. 2b is nodulose and has a thickened outer lip — a common occurrence in this species.
3. *Casmaria ponderosa* GMELIN. Not as common as previous species. Also occurs in nodulose and smooth forms but readily separated from *C.erinaceus* by the presence of a row of reddish-brown spots below the suture and a further row near anterior end of body whorl.

4. *Phalium glabratum* DUNKER. Uncommon offshore in mud sediment and usually collected in prawn trawl nets.
5. *Phalium bisulcatum* SCHUBERT & WAGNER. Common offshore, usually taken by dredging or in trawl nets. The body whorl is swollen, either ridged or smooth at shoulder; colour pattern very variable, the several rows of brown or yellow-brown squarish spots are often obsolete.





By 1/2

**FAMILY TONNIDAE.** The tun shells.

1. *Tonna galea* LINNAEUS. Moderately rare in P.N.G. The sutures are deeply channeled.
2. *Tonna dolium* LINNAEUS. Uncommon. The strong, widely spaced ribs are decorated with spaced brown dashes.
3. *Tonna luteostoma* KUSTER. Uncommon. Has broad ribs and a comparatively low spire. The sutures are only narrowly channeled.
4. *Tonna allium* DILLWYN. Reasonably common. The narrow ribs are widely spaced.
5. *Tonna cepa* RÖDING. (*T. canaliculata* Linnaeus of recent authors). Common. The broad, flat ribs are separated by only a shallow groove. Sutures are deeply channeled.
6. *Tonna perdix* LINNAEUS. Common. Readily identified by the elongate shape and produced spire.
7. *Tonna cumingii* REEVE. Uncommon. Colour variable. The broad ribs are separated by deep, narrow grooves and the sutures are not channeled.

8. *Tonna chinensis* DILLWYN. Uncommon. Moderately broad ribs interspaced with minor riblets near shoulder. Suture channel is shallow.
9. *Tonna sulcosa* BORN. Reasonably common. Flattened ribs, the interspaces about same width as the ribs.
10. *Tonna tessellata* LAMARCK. Common. Note the fluted edge to outer lip.
11. *Malea pomum* LINNAEUS. Common. Readily identifiable from illustration.

**FAMILY FICIDAE.** The fig shells.

12. *Ficus subintermedia* D'ORBIGNY. Reasonably common offshore.
13. *Ficus ficus* LINNAEUS. (*F. variegata* Röding). Uncommon. Figured specimen from 10 metres off Sepik River.



**FAMILY CYMATIIDAE.** The trumpet or triton shells.

1. *Charonia tritonis* LINNAEUS. The Pacific triton or trumpet shell. A large and beautiful shell, specimens to 450mm have been recorded. Uncommon.
2. *Monoplex parthenopeum* VON SALIS. World-wide distribution. Not common in P.N.G.
3. *Turritriton tabulatus* MENKE. Uncommon on south coast of P.N.G. Taken by prawn trawl nets in 10 to 25 metres in Gulf of Papua.







By 7/10

## FAMILY CYMATIIDAE — continued.

1. *Cymatium pileare* LINNAEUS. Common on reefs. Fig. 1a is a juvenile with the hairy periostracum intact.
2. *Cymatium aquatile* REEVE. Uncommon. Similar to preceding species but has coarser spiral threads; more flaring aperture anteriorly; plications inside outer lip are shorter; columella lacks the dark colour; columella plications are regular and do not merge posteriorly. Fig. 2a is a semi-juvenile shell.
3. *Cymatium lotorium* LINNAEUS. A heavy rugged shell. Fig. 3a is a juvenile shell.
4. *Linatella cingulatum* LAMARCK. A moderately rare species in P.N.G.
5. *Cymatium muricinum* RÖDING. Common.
6. *Cymatium pyrum* LINNAEUS. Uncommon. Fig. 6 is a juvenile shell.
7. *Cymatium sinense* REEVE. Uncommon offshore.
8. *Cymatium caudatum* GMELIN. Uncommon. The deeply channeled sutures and the finer sculpture separate this species from *C.gutturium* which it resembles.
9. *Cymatium gutturnium* RÖDING. Reasonably common. Colour of aperture variable.
10. *Cymatium exilis* REEVE. A moderately rare shell. The colouring is distinctive.
11. *Cymatium nicobaricum* RÖDING. Common on coral reefs.
12. *Cymatium pfeifferianum* REEVE. Uncommon offshore.





By 8/10

## FAMILY CYMATIIDAE. — continued.

1. *Distorsio anus* LINNAEUS. Common on shallow coral reefs.
2. *Distorsio reticulata* RÖDING. Common offshore.
3. *Cymatium rubeculum* LINNAEUS. Reasonably common.
4. *Cymatium hepaticum* RÖDING. Uncommon on reefs.
5. *Cymatium flaveola* RÖDING. A puzzling shell which has certain features of both *rubeculum* and *hepaticum*, and could be a variant of either species. Shells of this colour form collected near Daru and on New Britain Is.
6. *Cymatium gemmatum* REEVE. Common.
7. *Cymatium vespereum* LAMARCK. Uncommon below tidal influence.
8. *Turritriton labiosum* WOOD. Uncommon. Colour variable. Has an attractive cancellated sculpture of fine foliated spiral threads.
9. *Gyryneum pusillum* BRODERIP. Uncommon offshore. Colour variable.
10. *Gyryneum natator* RÖDING. Uncommon.
11. *Gyryneum bitubercularis* LAMARCK. Uncommon.
12. *Gyryneum gyrinum* LINNAEUS. Reasonably common on shallow reefs.
13. *Gyryneum cuspidatum* REEVE. Uncommon offshore.
14. *Gyryneum aculeatum* SCHEPMAN. Reasonably common offshore in shallow to rather deep water.
15. *Gyryneum jacundum* A.ADAMS. Reasonably common offshore. Taken by prawn trawl nets and dredges.





By 2/3

**FAMILY BURSIDAE.** The frog shells. A typical characteristic of the frog shells is a well defined posterior notch or canal. In some species the old varices oppose one another giving the shell a distinctly depressed shape.

1. *Tutufa bubo* LINNAEUS. Largest of the frog shells, attaining 300mm. A reasonably common shell.
2. *Tutufa rubeta* LINNAEUS. Smaller than *T.bubo*, and with a bright orange-red aperture which is decorated with raised yellowish lirae and plications. Reasonably common on shallow reefs.

3. *Tutufa oyamai* HABE. Uncommon offshore. Taken by trawl nets in the Gulf of Papua.
4. *Bursa bufonia* GMELIN. A heavy shell, averaging 75mm, and reasonably common on shallow reefs.





By 8/10

**FAMILY BURSIDAE** — continued.

1. *Bursa nobilis* REEVE. Uncommon.
2. *Bursa species*. Reasonably common on coral reefs in shallow water.
3. *Bursa tuberosissima* REEVE. The yellow aperture readily identifies this species. Not common.
4. *Bursa rosa* PERRY. Not common. Purplish-red inside aperture.
5. *Bursa rhodostoma* PERRY. Uncommon. Aperture mauve to purplish-brown, with scattered nodules on the columella in a lighter colour in some specimens.
6. *Bursa rana* LINNAEUS. Reasonably common offshore.
7. *Bursa margaritula* DESHAYES. Uncommon.
8. *Bursa granularis* RÖDING. Common, with world-wide distribution.
9. *Bursa crumena* LAMARCK. An attractive shell when live collected offshore. Reasonably common.

10. *Bursa cruentata* SOWERBY. A small shell readily identified by the dark spots on the upper section of the columella surface. Common.

**FAMILY COLUBRARIIDAE.**

11. *Colubraria muricata* LIGHTFOOT. An attractive shell attaining 100 mm in length. Uncommon.
12. *Colubraria fantomei* GARRARD. Not common. Taken by trawl nets in Gulf of Papua. Also occurs on Queensland coast.
13. *Colubraria myuna* GARRARD. Moderately rare. Same distribution as *C. fantomei* which it superficially resembles.
14. *Colubraria nitidula* SOWERBY. Gulf of Papua in rather deep water. A scarce species.
15. *Colubraria tortuosa* REEVE. An attractive species with a distinctly twisted spire. Taken by prawn trawlers from shallow to moderately deep water. Uncommon.





By 7/10

**FAMILY MURICIDAE.** The fish-bone murex illustrated on this plate are the true *Murex*, but the family includes sub-families and numerous genera classifying related species. These spined murex require further research to settle the relationship of several similar species. *M. tribulus* is extremely variable, particularly regarding length and general development of the spines, and several names have been applied to varietal forms.

1. *Murex pecten* LIGHTFOOT. The most attractive of the spiny murex with long delicately curving spines. Uncommon.
2. *Murex tribulus* LINNAEUS. Common and extremely variable. Shallow water forms have shorter spines and more solid shells than the forms dredged from deep water.
3. *Murex species*. Figured specimen dredged from 25 metres off Bougainville Is. There are other similar forms that can not be named at this time.

4. *Murex nigripinosus* REEVE. Tend to congregate in populations with the result that although the species is uncommon in most localities, one may suddenly find the weedy-sand bottom literally covered with these shells.
5. *Murex coppingeri* E.A.SMITH. Odd live specimens taken by trawl nets in the Gulf of Papua Scarce.
6. *Murex brevispina* LAMARCK. (*macgillivrayi* Dohrn). Reasonably common offshore in the Gulf of Papua.
7. *Haustellum haustellum* LINANEUS. Reasonably common in The Bismarck Archipelago.
8. *Murex multiplicatum* SOWERBY. A scarce shell offshore in moderately deep water.





# FAMILY MURICIDAE — continued.

Some attractive muricids with foliated or extended varical fronds.

1. *Chicoreus ramosus* LINNAEUS. A large showy shell. Common on or near reefs in shallow water.
2. *Chicoreus palmarosae* LAMARCK. A beautiful shell, prized by collectors. Rare in P.N.G., more readily available in south-east Asia.
3. *Chicoreus torrefactus* SOWERBY. Common. Colour variable. Cream aperture and short varical fronds.
4. *Chicoreus cornucervi* RÖDING. Uncommon most areas but occurs in large numbers in shallow inshore turbid waters at river estuaries near Daru on southern coast.
5. *Hexaplex cichoreus* GMELIN. Possibly restricted to Admiralty Group in P.N.G. Common in Philippines.
6. *Chicoreus saulii* SOWERBY. Uncommon. The varical fronds are short and pink tipped; body whorl with red-brown spiral ridges.
7. *Chicoreus microphyllus* LAMARCK. Reasonably common. Fig. 7a is the colourful juvenile.
8. *Chicoreus brunneus* LINK. Common. The pink aperture and a large single node between varices are consistent characteristics.
9. *Chicoreus banksii* SOWERBY. Uncommon. Occurs on south coast of P.N.G. from Daru to Samarai.
10. *Chicoreus axicornis* LAMARCK. An uncommon species usually taken by dredging or in trawl nets. Of delicate form with fronds extended and curving towards spire.
11. *Chicoreus* species. Appears unnamed. Shells of this general form recorded from Torres Strait, Samarai, New Britain and Solomon Islands. Scarce.
12. *Chicoreus trivialis* A.ADAMS. Collected rarely by prawn trawlers from offshore waters along south coast from Daru to Port Moresby.
13. *Chicoreus cervicornis* LAMARCK. Rare in choice live condition from deeper water offshore. Recorded from several localities throughout P.N.G.





By 8/10

## FAMILY MURICIDAE — continued.

1. *Phyllonotus laciniatus* SOWERBY. Moderately rare.
2. *Phyllonotus superbus* SOWERBY. Scarce shell in live condition.
3. *Phyllonotus* species. This shell collected in New Britain, and the following species which is found in semi-fossil beds near Rabaul, superficially resemble *N. superbus* and are related to that species, but they differ on several features, and are also distinct from each other.
4. *Phyllonotus* species. See comments previous figure.
5. *Naquetia capucinus* LAMARCK. Common.
6. *Naquetia triqueter* BORN. Uncommon.
7. *Pterynotus tripterus* BORN. Reasonably common.
8. *Pterynotus pinnatus* SWAINSON. Uncommon offshore in mud sediment.
9. *Pterynotus pellucidus* REEVE. Rarely collected in Gulf of Papua.
10. *Pterynotus bipinnatus* REEVE. Moderately rare.
11. *Pterynotus elongatus* LIGHTFOOT. Moderately rare. Collector's item.
12. *Pterynotus* species. A delicate little shell collected by scuba diving at 25 metres near Rabaul.
13. *Pterynotus vespertilio* KURODA. Rare in P.N.G. Figured specimen from 30 metres, near Talasea in west New Britain.
14. *Muricopsis noduliferus* SOWERBY. Reasonably common in New Britain.
15. *Murexiella balteatus* SOWERBY. Uncommon.





**FAMILY MURICIDAE** — continued.

1. *Homalocantha zamboi* BURCH & BURCH. Uncommon.
2. *Homalocantha anatomica* PERRY. Reasonably common.
3. *Homalocantha scorpio* LINNAEUS. Scarce in P.N.G. More abundant in Philippines.
4. *Homalocantha secunda* LAMARCK. Moderately rare.
5. *Pterynotus lienardi* CROSSE. Moderately rare.

6. *Vitularia miliaris* GMELIN. Uncommon.
7. *Favartia salmonea* MELVILL & STANDEN. Throughout P.N.G. but not common.
8. *Favartia brevicula* SOWERBY. Reasonably common in coral rubble.
9. *Phyllocoma convolutum* BRODERIP. Moderately rare.





By 8/10

**FAMILY MURICIDAE** — continued.

The drupes, purples and oyster drills of the Subfamily Thaidinae.

1. *Rapana rapiformis* BORN. Reasonably common off-shore.
2. *Purpura persica* LINNAEUS. Common.
3. *Thais armigera* LINK. Common.
4. *Mancinella bufo* LAMARCK. Uncommon.
5. *Thais kieneri* DESHAYES. Reasonably common.
6. *Thais aculeata* DESHAYES. Common.
7. *Mancinella tuberosa* RÖDING. Common.
8. *Mancinella alouina* RÖDING. Common.
9. *Thais echinata* BLAINVILLE. Reasonably common.
10. *Thais c.f. kieneri* DESHAYES. Probably a form of *T. kieneri*, lacking the usual strong nodules of the more typical species. Refer fig. 5 above.
11. *Nassa sarta* BRUGUIERE. Common.





By 9/10

## FAMILY MURICIDAE — continued.

1. *Drupa clathrata* LAMARCK. A scarce shell in P.N.G.
2. *Drupa rubusidaeus* RÖDING. Reasonably common.
3. *Drupa morum* RÖDING. Reasonably common.
4. *Drupa ricina* LINNAEUS. Very common.
5. *Drupina grossularia* RÖDING. Abundant.
6. *Drupina cornus* RÖDING. Abundant. Variable in colour and form.
7. *Drupella cariosa* WOOD. Uncommon on south coast of P.N.G.
8. *Morula aurantiaca* HOMBRON & JAQUINOT. Another common and variable species along south coast of P.N.G.
9. *Morula margaritcola* BRODERIP. Common and extremely variable.
10. *Morula granulata* DUCLOS. Very common.
11. *Morula anaxeres* KIENER. Most abundant.
12. *Morula spinosa* H. & A. ADAMS. Uncommon.
13. *Morula fiscella* GMELIN. Common.
14. *Morula uva* RÖDING. Common.
15. *Morula nodicostata* PEASE. Common.
16. *Morula biconica* BLAINVILLE. Common.
17. *Vexilla vexillum* GMELIN. Not common.
18. *Pinaxia versicolor* GRAY. Uncommon.





By 8/10

**FAMILY MAGILIDAE** (*Coralliophilidae*)

These shells live in association with corals and are related to the Muricidae. *Rapa rapa* is most difficult to find as it lives inside soft sponge-like corals.

1. *Rapa rapa* LINNAEUS. Uncommon.
2. *Coralliophila violacea* KIENER. Abundant on large coral heads.
3. *Coralliophila pyriformis* KIRA. Reasonably common.
4. *Coralliophila erosa* RÖDING. Not common.
5. *Tolema australis* LASERON. Reasonably common throughout P.N.G.
6. *Tolema lischkeanus* DUNKER. Uncommonly collected by scuba diving in the Bismarck Archipelago.
7. *Tolema pagodus* A.ADAMS. Uncommon. By scuba diving off New Britain.

**FAMILY BUCCINIDAE.** Members of this family are found in all oceans of the world. There are many large and small whelks.

8. *Phos senticosus* LINNAEUS. Common.

9. *Phos tectum* GMELIN. Common.
10. *Cantharus wagneri* ANTON. Common.
11. *Cantharus undosus* LINNAEUS. Common.
12. *Cantharus fumosus* DILLWYN. Common.
13. *Cantharus wrightae* CERNOHORSKY. Uncommon.
14. *Cantharus pulcher* REEVE. Common.
15. *Cantharus iostomus* GRAY. Reasonably common.
16. *Pisania crenilabrum* A.ADAMS. Common.
17. *Caducifer truncata* HINDS. Reasonably common.
18. *Engina zonalis* LAMARCK. Reasonably common.
19. *Engina lineata* REEVE. Common.
20. *Engina mendicaria* LINNAEUS. Common.
21. *Engina zatricium* MELVILL. Common.
22. *Engina incarnata* DESHAYES. Uncommon.
23. *Engina alveolata* KIENER. Common.





By 6/10

**FAMILY MELONGENIDAE.** A member of this family, *Syrinx aruanus*, is considered to be the largest living gastropod.

1. *Syrinx aruanus* LINNAEUS. Specimens to 50cm are reasonably common and odd shells to 65cm have been recorded. This giant shell is occasionally found on beaches at low tide in northern Australia, but in P.N.G. it has been taken alive only in prawn trawl nets in the Gulf of Papua, from Daru to Yule Island.
2. *Volema cochlidium* LINNAEUS. Uncommon along southern coast of P.N.G.

**FAMILY FASCIOLARIIDAE.** This group includes the large spindle shells and a large number of small to medium sized shells of diverse form and sculpture.

3. *Fusinus undatus* GMELIN. Uncommon.
4. *Pleuroploca filamentosa* RÖDING. Very common on coral reefs.
5. *Saginafus pricei* SMITH. Taken in large numbers in prawn trawl nets from the turbid waters of the Gulf of Papua.
6. *Pleuroploca trapezium* LINNAEUS. Uncommon most areas but reasonably common on shallow reefs off east coast of Bougainville Island.
7. *Pleuroploca species*. Appears to be rather scarce. Several specimens collected by trawl nets off Yule Island in Gulf of Papua. Recorded also from Queensland.





By 8/10

**FAMILY FASCIOLARIIDAE** — continued.

1. *Fusinus colus* LINNAEUS. Uncommon.
2. *Fusinus nicobaricus* LAMARCK. Uncommon.
3. *Granulifusus consimilis* GARRARD. Apparently rare. The figured specimen collected by prawn trawl from 30 metres off Yule Island, Gulf of Papua. Also recorded from Queensland.
4. *Latirus gibbulus* GMELIN. Reasonably common on coral reefs.
5. *Latirus nodatus* GMELIN. Uncommon.
6. *Latirus smaragdula* LINNAEUS. Common on reefs.
7. *Latirus belcheri* REEVE. Uncommon.
8. *Latirus polygonus* GMELIN. An attractive shell and moderately common on coral reefs.
9. *Latirus craticulatus* LINNAEUS. Common.
10. *Latirus turritus* GMELIN. Reasonably common on coral reefs.
11. *Latirus rhodostomus* DUNKER. Common.
12. *Latirus fastigium* REEVE. Common.
13. *Latirus* species. Possibly a colour variant of *L. nodatus*. There are several species of similar form on the reefs in the central Indo-Pacific and their relationship is confusing.
14. *Latirus paetelianus* KOBELT. Reasonably common.
15. *Latirus paetelianus carpentariensis* HEDLEY. Common offshore in the turbid waters of the Gulf of Papua.
16. *Peristernia ustulata* REEVE. Uncommon.
17. *Peristernia nassatula* LAMARCK. Common on reefs.
18. *Peristernia incarnata* KIENER. Uncommon on reefs.
19. *Peristernia australiensis* REEVE. Uncommon along south coast of P.N.G.
20. *Peristernia columbarium* GMELIN. Uncommon.
21. *Dolicholatirus lancea* GMELIN. Uncommon on reefs.





By 7/10

**FAMILY OLIVIDAE.** The olives are solid, highly polished and colourful. They thrive in the warm coastal waters throughout P.N.G., preferring sand patches close to coral reefs. Most are common to reasonably common but a few from deeper water are difficult to procure because of the inaccessibility of their habitat. Some species are consistent in both form and colour decoration and raise no problems in identification, but others are problematical, and there is evidence of intergrading between currently accepted species. eg. specimens featured as figs. 9 & 9a. below.

1. *Oliva tessellata* LAMARCK. Common.
2. *Oliva oliva* LINNAEUS. Common and very variable.
3. *Oliva dactyliola* DUCLOS. Uncommon.
4. *Oliva bulbiformis* DUCLOS. Common in islands of Bismarck Archipelago.
5. *Oliva lecoquiana* ST.GERMAIN. Scarce in P.N.G.
6. *Oliva rufula* DUCLOS. Uncommon in live condition.
7. *Oliva parkinsoni* PRIOR. Collected by scuba diving in Bismarck Archipelago and Solomon Is. Uncommon.
8. *Oliva bulowi* SOWERBY. Rather rare in live condition. Bismarck Archipelago.
9. *Oliva species*. Appear to be intermediates of *annulata* and *bulowi*. Collected together in 20 metres depth off Rossel Island in the Louisiade Archipelago. Fig. 9 is close to *annulata* and 9a is a wayward *bulowi* – or the parents were wayward?
10. *Oliva australis* DUCLOS. Common on south coast of P.N.G.
11. *Oliva carneola* GMELIN. Abundant. Colour variable.
12. *Oliva sidelia* DUCLOS. Uncommon.
13. *Oliva rufofulgurata* SCHEPMAN. Uncommon offshore.
14. *Oliva paxillus* REEVE. Uncommon.
15. *Oliva ceramensis* SCHEPMAN. Common offshore.
16. *Oliva caldania* DUCLOS. A common species offshore.





By 2/3

# FAMILY OLIVIDAE — continued.

The olives *funeralis*, *elegans*, *mustellina* and juveniles of *vidua* are all extremely variable and certain variations in each species share typical characteristics of other of these species, and can not be named with any certainty. Evidence of interbreeding is strong and this may have caused the overlapping of specific characters.

1. *Oliva annulata* Gmelin. Common. Clinal variations occur. Fig. 1 is a typical shallow water form; Fig. 1a is from 6 to 10 metres; & fig. 1b is the colour form likely to be found in deeper water. Refer fig. 9 plate 34.

2. *Oliva funeralis* Lamarck. Common.

3. *Oliva elegans* Lamarck. Common.

4. *Oliva mustellina* Lamarck. Common.

5. *Oliva tremulina* Lamarck. Uncommon.

6. *Oliva lignaria* MARRAT. Reasonably common on south coast of P.N.G. Variable. Aperture mauve to violet.

7. *Oliva episcopalis* Lamarck. Common. The purplish-black aperture is typical.

8. *Oliva atalina* DUCLOS. Similar to *O. episcopalis* but lacks the dark aperture of that species and the spire is more produced. Uncommon.

9. *Oliva vidua* RÖDING. Common and very variable. Figs. 9 & 9a are typical forms, dark olive to black; fig. 9b is an unusual colour form; figs. 9c & 9d depict *forma macleayi* Duclos, which is distinctive and rather scarce in most localities.

10. *Oliva reticulata* RÖDING. Common. The orange columella readily identifies this species.





By 9/10

**FAMILY OLIVIDAE** — continued.

1. *Oliva miniacea* RÖDING. Reasonably common. A large attractive olive readily identified by the orange aperture. Colour decoration variable.
2. *Oliva textilina* LAMARCK. A large heavy shell, widely distributed but not common. Aperture cream.
3. *Oliva tricolor* LAMARCK. An uncommon shell.
4. *Oliva rubrolabiata* FISCHER. A rather rare species. Specimens collected by scuba diving and dredging recently in Solomon Is., and included here as it possibly occurs off Bougainville Is. Figured specimen is a dark form.
5. *Ancilla muscae* PILSBRY. Not common in P.N.G. Collected by dredging in Torres Strait and near Samarai.
6. *Amalda mamillata* HINDS. Juvenile shell dredged near Samarai. Appears scarce in P.N.G. waters.





By 6/10

#### FAMILY VASIDAE. The vase shells.

1. *Vasum ceramicum* LINNAEUS. Common on shallow reefs.
2. *Vasum turbinellum* LINNAEUS. A common shell on intertidal reefs.

#### FAMILY HARPIDAE. The harps have always been one of the favourites with collectors.

3. *Harpa major* RÖDING. The largest of the harps. Typical characteristics are a division of the columella blotch; wide ribs usually without the dark lines so evident in similar species. Uncommon.
4. *Harpa articularis* LAMARCK. Uncommon. The ovate shape, rather frail shell with comparatively narrow ribs, and a single large brownish columella blotch, assist in identifying this species. Fig. 4 from Bougainville; fig. 4a from Samarai; fig. 4b is a dark form from Manus Is., Admiralty Group.

5. *Harpa harpa* LINNAEUS. A solid and medium sized shell, angled at the shoulder, the columella with three purplish-brown blotches and usually ornamented on the body whorl with a row of large reddish spots. Uncommon.
6. *Harpa amouretta* RÖDING. Common. Readily identified by the small size, elongate shape and solid shell. Usually with three columella blotches but this feature variable.





By 7/10

**FAMILY MITRIDAE.** Introducing the mitrids, this plate illustrates some of the larger members of the family. They are all reasonably common in Papua New Guinea, the exception being *Cancilla isabella* which is collected occasionally in the Admiralty Islands and the Bismarck Archipelago, but more likely to be found in south-east Asia and the Philippines. *M.incompta* and *M.eremitarum* live among stones and on coral reefs, the remainder prefer sand patches between reefs in shallow water.

1. *Mitra mitra* LINNAEUS. The largest of the mitrids.
2. *Mitra papalis* LINNAEUS. Another large and colourful species.

3. *Mitra incompta* LIGHTFOOT. Not common.
4. *Mitra eremitarum* RÖDING. Compare with *N.ferruginea*, pl. 39, fig. 13.
5. *Mitra stictica* LINK.
6. *Mitra imperialis* RÖDING.
7. *Mitra carbonaria* SWAINSON. South coast of P.N.G., in deeper offshore waters.
8. *Mitra cardinalis* GMELIN.
9. *Cancilla isabella* SWAINSON.





By 7/10

## FAMILY MITRIDAE — continued.

1. *Mitra ambigua* SWAINSON. Common.
2. *Mitra coffea* SCHUBERT & WAGNER. Reasonably common.
3. *Mitra variabilis* REEVE. Daru to Samarai. Not common.
4. *Mitra rosacea* REEVE. Moderately rare species found occasionally in New Britain and New Ireland.
5. *Mitra (Nebularia) coronata* LAMARCK. Reasonably common.
6. *Mitra luctuosa* A. ADAMS. Variable. Slender and squat forms, specimens with fine sculpture and others with coarse axial sculpture may occur in the one population.
7. *Mitra puncticulata* LAMARCK. An uncommon and attractive shell.
8. *M. (Nebularia) aurantia* GMELIN. Common.
9. *M. (Nebularia) doliolum* KUSTER. Reasonably common.
10. *M. (Nebularia) tornata* REEVE. Reasonably common.
11. *M. (Nebularia) aurora floridula* SOWERBY. Uncommon.
12. *M. (Nebularia) chrysostoma* BRODERIP. Uncommon.
13. *M. (Nebularia) ferruginea* LAMARCK. Similar to *M. eremitarum*, but more coarsely sculptured, and smaller.
14. *M. (Nebularia) contracta* SWAINSON. A scarce shell.
15. *M. (Nebularia) lugubris* SWAINSON. Reasonably common.
16. *M. (Strigatella) scutulata* GMELIN. Common and extremely variable. The form illustrated by fig. 16a could be confused with *M. lugubris*.
17. *M. (Nebularia) rubritincta* REEVE. Common in some areas.
18. *M. (Nebularia) cucumerina* LAMARCK. Abundant.
19. *M. (Nebularia) chrysalis* REEVE. Reasonably common.
20. *M. (Nebularia) amaura* HERVIER. Common.
21. *M. (Nebularia) fraga* QUOY & GAIMARD. Reasonably common.
22. *M. (Nebularia) tabanula* LAMARCK. Uncommon.
23. *M. (Nebularia) procissa* REEVE. Moderately rare.
24. *M. (Nebularia) coarctata* REEVE. Uncommon.
25. *M. (Strigatella) peculiaris* REEVE. Uncommon.





By 8/10

## FAMILY MITRIDAE — continued.

1. *Mitra (Strigatella) decurtata* REEVE.
2. *M. (Strigatella) colombelliformis* KIENER.
3. *M. (Strigatella) vexillum* REEVE.
4. *M. (Strigatella) ticaonica* REEVE.
5. *M. (Strigatella) acuminata* SWAINSON.
6. *M. (Strigatella) assimilis* PEASE.
7. *M. (Strigatella) auriculoides* REEVE.
8. *M. (Strigatella) fastigium* REEVE.
9. *M. (Strigatella) litterata* LAMARCK.
10. *M. (Strigatella) paupercula* LINNAEUS.
11. *M. (Strigatella) pellisserpentis* REEVE.
12. *M. (Strigatella) retusa* LAMARCK.
13. *M. (Strigatella) pica* DILLWYN.
14. *M. (Strigatella) telescopium* REEVE.
15. *M. (Dibaphus) edentulus* SWAINSON. Uncommon. Superficially resembles *Conus mitratus*.
16. *Scabricola eximia* A. ADAMS.
17. *Scabricola variegata* GMELIN.
18. *Scabricola desetangsii* KIENER.
19. *Scabricola caerulea* REEVE.
20. *Pterygia conus* GMELIN.
21. *Pterygia arcata* SOWERBY.
22. *Imbricaria conovula* QUOY & GAIMARD.
23. *Imbricaria punctata* SWAINSON.
24. *Imbricaria vanikoroensis* QUOY & GAIMARD.
25. *Imbricaria olivaeformis* SWAINSON.
26. *Imbricaria conularis* LAMARCK.
27. *Scabricola (Swainsonia) bicolor* SWAINSON.
28. *S. (Swainsonia) casta* GMELIN.
29. *S. (Swainsonia) ocellata* SWAINSON.
30. *S. (Swainsonia) fusca* SWAINSON.
31. *S. (Swainsonia) fissurata* LAMARCK.





Nat. size

## FAMILY MITRIDAE — continued.

1. *Pterygia nucea* GMELIN. Reasonably common.
2. *Pterygia dactylus* LINNAEUS. Moderately uncommon.
3. *Pterygia sinensis* REEVE. Uncommon.
4. *Pterygia crenulata* GMELIN. Not common.
5. *Pterygia fenestrata* LAMARCK. Reasonably common.
6. *Pterygia scabricula* LINNAEUS. Reasonably common.
7. *Neocancilla papilio* LINK. Common.
8. *Neocancilla clathrus* GMELIN. Common.
9. *Cancilla (Domiporta) granatina* LAMARCK. Reasonably common.
10. *Subcancilla interlirata* REEVE. Uncommon.
11. *Subcancilla abyssicola* SCHEPMAN. A rare shell in live condition.
12. *Subcancilla annulata* REEVE. Uncommon.
13. *C. (Domiporta) rufilirata* ADAMS & REEVE. Moderately rare.





Nat. size

## FAMILY MITRIDAE — continued.

1. *Cancilla (Domiporta) carnicolor* REEVE. Moderately rare.
2. *C. (Domiporta) circula* KIENER. From deeper water and scarce in live condition.
3. *C. (Domiporta) peasei* DOHRN. Reasonably common.
4. *C. (Domiporta) praestantissima* RÖDING. Moderately common offshore.
5. *C. (Domiporta) filaris* LINNAEUS. Common in shallow to deeper water.
6. *Subcancilla verrucosa* REEVE. Common in shallow water.
7. *C. (Domiporta) incarnata* REEVE. Uncommon.
8. *C. (Domiporta) gloriola* CERNOHORSKY. Moderately rare.
9. *Ziba fulgetrum* REEVE. Uncommon.
10. *Ziba flammea* QUOY & GAIMARD. Uncommon in P.N.G.
11. *Ziba bacillum* LAMARCK. A common shallow water species.
12. *Ziba astyagis* DOHRN. Uncommon.
13. & 14. *Subcancilla malleti* PETIT DE LA SAUSSAYE. Fig. 14 is the offshore form.





By 7/10

**FAMILY COSTELLARIIDAE.** (Takes precedence over *Vexillidae* — Cernohorsky, 1976).

The shell illustrated by fig. 13 is only one of several attractive specimens taken recently by scuba diving in the Bismarck Archipelago and Solomon Islands. As the author has sighted only single specimens of each, there is the possibility that some may be only hybrid forms. As more enthusiasts join the ranks of the undersea explorers, perhaps a comprehensive series will come to light to help solve the problem.

1. *Vexillum plicarium* LINNAEUS. Common.
2. *Vexillum vulpeculum* LINNAEUS. Common and extremely variable.
3. *Vexillum coccineum* REEVE. Scarce in P.N.G. but reasonably common in the Philippines.
4. *Vexillum dennisoni* REEVE. Another species more likely to be found in the Philippines.
5. *Vexillum subdivisum* GMELIN. Common.
6. *Vexillum lyratum* LAMARCK. Uncommon.

7. *Vexillum rugosum* GMELIN. Common
8. *Vexillum melongena* LAMARCK. Not common in P.N.G.
9. *Vexillum gruneri* REEVE. Common.
10. *Vexillum caffrum* LINNAEUS. Common some localities.
11. *Vexillum taeniatum* LAMARCK. A beautiful and uncommon shell.
12. *Vexillum regina* SOWERBY. Very variable. An offshore species.
13. *Vexillum compressum* SOWERBY. A magnificent shell, taken by scuba diving near Rabaul. The anterior canal is recurved to a remarkable degree.
- 14 & 16. *Vexillum curvilinearatum* SOWERBY. Uncommon.
15. *Vexillum cingulatum* LAMARCK. Common.
17. *Vexillum interstriatum* SOWERBY. A rare shell. Figured specimen is a dead shell.





By 8/10

## FAMILY COSTELLARIIDAE — continued.

1. *Vexillum (Costellaria) costatum* GMELIN. Moderately rare.
2. *V. (Costellaria) granosum* GMELIN. Reasonably common.
3. *V. (Costellaria) sanguisugum* LINNAEUS. A variable species.
4. *V. (Costellaria) acuminatum* GMELIN. Extremely variable.
5. *V. (Costellaria) zebuense* REEVE. Uncommon.
6. *V. (Costellaria) acupictum* REEVE. Moderately rare.
7. *V. (Costellaria) stainforthii* REEVE. Rare.
8. *V. (Costellaria) rubrocostatum* HABE & KOSUGE. Rare.
9. *V. (Costellaria) exasperatum* GMELIN. Common and very variable.
10. *V. (Costellaria) cadaverosum* REEVE. Abundant.
11. *V. (Costellaria) echinatum* A.ADAMS. Moderately rare.
12. *V. (Costellaria) coronatum* HELBLING.
13. *V. (Costellaria) zelotypum* REEVE. Uncommon.
14. *V. (Pusia) crocatum* LAMARCK. Extremely variable and reasonably common.
15. *V. (Costellaria) obeliscum* REEVE. Common.
16. *V. (Costellaria) deshayesi* REEVE. Abundant on coral reefs.
17. *V. (Costellaria) semifasciatum* LAMARCK. Common.
18. *V. (Costellaria) virgo* LINNAEUS. Reasonably common.
19. *V. (Costellaria) unifascialis* LAMARCK. Moderately common.
20. *V. (Costellaria) suluense* ADAMS & REEVE. Uncommon.
21. *V. (Costellaria) cophinum* GOULD. Reasonably common and variable.
22. *V. (Costellaria) radix* SOWERBY. Common.
23. *V. (Costellaria) exaratum* A.ADAMS. Common.
24. *V. (Costellaria) daedalum* REEVE. Reasonably common.
25. *V. (Costellaria) michau* CROSSE & FISCHER. Uncommon.
26. *V. (Costellaria) discolorium* REEVE. Reasonably common.
27. *V. (Costellaria) rosea* BRODERIP. Uncommon.





# FAMILY COSTELLARIIDAE — continued.

1. *V. (Costellaria) species*. Collected occasionally by scuba diving in New Britain and Solomon Islands. Possibly a variant of *C. sanguisugum*.
2. *V. (Costellaria) mirabile* A. ADAMS. An attractive and rare species.
3. *V. (Costellaria) corbicula* SOWERBY. Uncommon.
4. *V. (Costellaria) fuscoapictatum* E. A. SMITH. Uncommon.
5. *V. (Costellaria) festum* REEVE. Moderately rare.
6. *V. (Costellaria) militaris* REEVE. A scarce shell.
7. *V. (Costellaria) lucidum* REEVE. Not common.
8. *V. (Costellaria) modestum* REEVE. Uncommon.
9. *V. (Costellaria) obtusispinosum* SOWERBY. Uncommon and variable.
10. *V. (Costellaria) amanda* REEVE. Common.
11. *V. (Costellaria) semisculptum* ADAMS & REEVE. Reasonably common.
12. *V. (Costellaria) turrigerum* REEVE. Reasonably common.
13. *V. (Costellaria) radius* REEVE.

14. *Zierliana anthracina* REEVE. Common.
15. *Zierliana oleacea* REEVE. Abundant.
16. *Zierliana quoyi* DESHAYES & EDWARDS. Uncommon in P.N.G.
17. *Zierliana ziervogelii* GMELIN. Reasonably common.
18. *Zierliana woldemarii* KIENER. Not common.
19. *V. (Pusia) cancellarioides* ANTON. Reasonably common.
20. *V. (Pusia) cithara* REEVE. Common.
21. *V. (Pusia) semicostatum* ANTON. Uncommon.
22. *V. (Pusia) tuberosa* REEVE. Common.
23. *V. (Pusia) bernhardina* RÖDING. Uncommon.
24. *V. (Pusia) pardalis* KUSTER. Common.
25. *V. (Pusia) patriarchalis* GMELIN. Reasonably common.
26. & 29. *V. (Pusia) cavea* REEVE. Common.
27. *V. (Pusia) microzonias* LAMARCK. Reasonably common.
28. *V. (Pusia) millicostatum* BRODERIP. Uncommon.
30. *V. (Pusia) consanguinea* REEVE. Common.
31. *V. (Pusia) pisolina* LAMARCK. Common.
32. *V. (Pusia) amabile* REEVE. Common.





By 2/3

**FAMILY TEREBRIDAE.** The auger or pencil shells. Some of the larger and better known species are illustrated on this plate.

1. *Terebra maculata* LINNAEUS. Largest of the augers. Common.
2. *Terebra crenulata* LINNAEUS. Common. Fig. 2b is *forma fimbriata* Deshayes.
3. *Terebra areolata* LINK. Common. Decorated with four rows of spots on body whorl, three on prewhorls.
4. *Terebra subulata* LINNAEUS. Common. Similar to preceding species, but narrower and with three rows of spots on last whorl and only two on prewhorls.
5. *Terebra dimidiata* LINNAEUS. Reasonably common. An attractive shell.
6. *Terebra felina* DILLWYN. Reasonably common.
7. *Terebra pretiosa* REEVE. Prefers deeper water offshore. Moderately rare in P.N.G.
8. *Terebra argus* HINDS. Uncommon. Rows of large squarish spots of yellow-gold often not readily visible.
9. *Terebra pertusa* BORN. Uncommon most localities, but reasonably common on New Britain Island.
10. *Terebra guttata* RÖDING. Uncommon.
11. *Terebra chlorata* LAMARCK. Common.
12. *Duplicaria duplicata* LINNAEUS. Not common in P.N.G. Don't confuse with *D. dussumieri* or *D. evoluta*. See comments under fig. 1 next plate.
13. *Terebra nebulosa* SOWERBY. Common.





By 9/10

## FAMILY TEREBRIDAE — continued.

1. *Duplicaria dussumieri* KIENER. Compare with *D.duplicata* and *D.evoluta*. *D.duplicata* (pl. 46-12) — Axial ribs wide and flat, sutural bands very wide and low profiled. *D.evoluta* — Axial ribs narrow and angulate, sutural bands narrow and roundly raised. *D.dussumieri* — Axial sculpture somewhat similar to *evoluta*, but the sutural bands are flat and wider, but less so than in *duplicata*.
2. *Duplicaria evoluta* DESHAYES. Colour variable. See comments under fig. 1.
3. *Duplicaria anomala* GRAY. Uncommon.
4. *Hastula cernohorskyi* BURCH. Remarkably similar to the common Atlantic species, *H.cinerea*.
5. *Impages hectica* LINNAEUS. Common.
6. *Terebra funiculata* HINDS. Common. Cream, darker in spiral grooves.
7. *Terebra laevigata* GRAY. Uncommon. Comparatively smooth.
8. *Terebra jenningsi* BURCH. Uncommon.
9. *Duplicaria raphanula* LAMARCK. An attractive and rather scarce shell.
10. *Hastula lanceata* LINNAEUS. Moderately common.
11. *Terebra triseriata* GRAY. Common in dredgings off-shore.
12. *Hastula stylata* HINDS. Uncommon.
13. *Hastula albula* MENKE. Uncommon.
14. *Hastula solida* DESHAYES. Scarce. Do not confuse with a juvenile *T.cerithina*.
15. *Hastula strigilata* LINNAEUS. Common and very variable.
16. *Hastula matheroniana* DESHAYES. Very similar to *strigilata*, but this species with fewer and stronger axial ribs. Common.
17. *Hastula penicillatus* HINDS. Not common.
18. *Hastula bacillus* DESHAYES. Uncommon. Do not confuse with a juvenile *Impages hectica*.





Nat. size

## FAMILY TEREBRIDAE — continued.

1. *Terebra stearnsii* PILSBRY. Uncommon offshore.
2. *Terebra succinea* HINDS. Occasional specimens taken in trawl nets in Gulf of Papua. Scarce in P.N.G.
3. *Terebra lima* DESHAYES. Uncommonly dredged from south P.N.G. coast to north-east Aust.
4. *Terebra amanda* HINDS. (*albomarginata* Deshayes). Variable in colour but usually with distinctive white band at sutures. Prefers offshore habitat.
5. *Terebra cingulifera* LAMARCK. Common in dredgings offshore.

6. *Terebra straminea* GRAY. Note the attractive sculpturing. Colour variable. Rare in live condition.
7. *Terebra anilis* RÖDING. Uncommon.
8. *Terebra fenestrata* HINDS. Rather rare in live condition. Dead shells common in dredgings. Colour very variable.
9. *Terebra myuros* LAMARCK. Moderately rare. The name *commaculata* Gmelin has been applied to this shell, but Gmelin's "type" is a worn and broken shell and may or may not refer to this species.





Nat. size

## FAMILY TEREBRIDAE — continued.

1. *Terebra babylonia* LAMARCK. Common.
2. *Terebra cerithina* LAMARCK. Common.
3. *Terebra flavescens* DESHAYES. Uncommon.
4. *Terebra columellaris* HINDS. Very common.
5. *Terebra conspersa* HINDS. Reasonably common.
6. *Terebra affinis* GRAY. Abundant.
7. *Terebra quoygaimardi* CERNOHORSKY & BRACHER. An attractive and uncommon shell.
8. *Terebra flavofasciata* PILSBRY. Moderately rare.
9. *Terebra undulata* GRAY. Reasonably common.
10. *Terebra paucistriata* E.A.SMITH. Similar to *undulata* but has double row of beads, a white band at base and is of more slender form.
11. *Terebra kilburni* BURCH. Uncommon.
12. *Terebra parkinsoni* CERNOHORSKY & BRACHER. Rare in most localities, collected by scuba diving near Rabaul in reasonable numbers. Similar to *kilburni*, this species has large odd brown and white blotches, and an overall washed-out appearance.
13. *Duplicaria* species. Appears unnamed. Recorded from Torres Strait, Samarai and Fiji.
14. *Terebra succincta* GMELIN. Reasonably common some localities.
15. *Hastula nitida* HINDS. Uncommon. Variable in colour.
16. *Terebra textilis* HINDS. Moderately uncommon offshore. Colour variable.
17. *Terebra longiscata* DESHAYES. Uncommon offshore.
18. *Terebra multistriata* SCHEPMAN. An attractive little shell which is rather rare.
19. *Terebra turrita* E.A.SMITH. Habitat appears to be deeper water offshore. A rare species.





By 1/3

**FAMILY VOLUTIDAE.** Although the tropical, reef studded seas of Papua New Guinea are extremely rich in most other families of molluscs, only the eight species of volutes illustrated on this and the following plate have been recorded.

1. *Melo aethiopicus* LINNAEUS. Common. Ranges from about Port Moresby on the southern coast, west and north throughout the remainder of P.N.G. and the off-shore islands and reefs. Fig. 1a is a juvenile shell.
2. *Melo broderipi* GRIFFITH & PIDGEON. Appears rare in P.N.G. The author collected two specimens only in the Admiralty Group, sharing the habitat with *M. aethiopicus*.

3. *Melo umbilicatus* SOWERBY. A series showing the gradually developing shell from the juvenile depicted by fig. 3b. The wide flaring aperture is typical of the adult shell. This species is a continuation of the north Australian stock, and ranges from Daru to approximately Samarai. Along the south coast of P.N.G. from Port Moresby to Samarai, *umbilicatus* and *aethiopicus* share the same offshore habitat, both species being taken in large numbers by prawn trawl nets.





By 1/2

# FAMILY VOLUTIDAE — continued.

1. *Cymbiola rutila* BRODERIP. Variable. Moderately common in islands of the Louisiade Archipelago, Trobriand and D'entrecasteaux islands in the Milne Bay Province, but rare in most other areas. Occurs in various forms but it is confusing to note that no one form or variety is peculiar to one locality. *Fig. 1* is typical form from south-east coast of P.N.G. and closely resembles the north Queensland variety; *fig. 1a* is the common form from islands in the Louisiade Archipelago; *fig. 1b* may be found in the Trobriand Islands; *fig. 1c* was collected in the Siassi Islands off west New Britain. However, any one of these varietal forms may occur throughout the range.

2. *Aulica flavicans* GMELIN. In P.N.G., appears restricted to the turbid waters in the vicinity of Daru, where it is reasonably common.

3. *Volutaconus bednalli* BRAZIER. A rare shell in P.N.G., a few specimens collected in trawl nets from Daru to Yule Island in the Gulf of Papua.

4. *Amoria turneri* GRIFFITH & PIDGEON. Recorded in reasonable numbers offshore from Yule Island in the Gulf of Papua and probably ranges from Daru to approximately Port Moresby.

5. *Aulicina vespertilio* LINNAEUS. Abundant in the Admiralty Group but rare elsewhere in P.N.G. Extremely variable.





**FAMILY CONIDAE.** A very popular group with collectors, includes the glamorous *glory of the seas cone*, *Conus gloriamaris* (pl. 55, fig. 3). A well represented family with nearly 1,500 names proposed for extant species, of which perhaps 400 to 500 may be considered valid. While some species are reasonably consistent and easy to identify, others are extremely variable and several species have no less than ten names applied to what are now considered to be merely varietal forms. Distribution and clinal variations are amazing in some species of cones and the relationship of certain similar species is not clear. There is further confusion due to the problem of interpreting the work of early authors as many of the well known and common species are not represented by referable 'types'. So there will be several name changes as taxonomists research early literature and study available specimens. Many names in popular use today are known to be incorrect for one reason or another, and in some cases, acceptable alternatives are not resolved. In these instances, and at the author's discretion, certain popular names are followed with "(by recent authors)". Some recent name changes are indicated by bracketing the previous popular name. In the following text, sub-generic classification, which is based only on shell characters, has been avoided and all species referred to under the genus *Conus*.

All cone shells are poisonous and should be handled with great care. The piscivorous species (they kill and eat fish) are capable of inflicting a fatal injury. *C. geographus* has caused the deaths of several humans. So avoid handling cone shells at all times. Even after freezing the venom remains toxic, but boiling appears to dissipate the venom, so boil cone shells before attempting to remove the animal. When first collected the mollusc tends to retract into it's shell and becomes aggressive some time after removal from it's natural environment. Most injuries have resulted from careless handling at the end of the day's collecting when the catch is being checked and admired.

***Conus pergrandis* IREDALE.**

The locality of the holotype is New Britain Is., at 30-40 fathoms. To the author's knowledge, only three specimens have been recorded of this large shell, indicating the great rarity of the species. The figured specimen, 17.3 cm in length, was collected in a prawn trawl net from 140 metres off southern Queensland.





By 2/3

## FAMILY CONIDAE — continued.

The marbled cone, *C. marmoreus*, is extremely variable regarding the arrangement of the decorative colour pattern, and several names are applied to varietal forms. Some of these variations appear consistent in odd populations and localities, but in other areas they obviously intergrade.

1. *Conus marmoreus* LINNAEUS. This is the typical form which is common throughout P.N.G.
2. *Conus marmoreus* LINNAEUS. These specimens have a vaguely banded pattern and could be sorted as either typical forms or as *forma bandanus*. Common in P.N.G.
3. *Conus marmoreus* LINNAEUS, *forma bandanus* HWASS. Common.
4. *Conus vidua* REEVE. Uncommon. Difficult to separate from extreme forms of *marmoreus bandanus*.
5. *Conus nicobaricus* HWASS. Uncommon.

6. *Conus marmoreus* LINNAEUS. All-white or albinistic forms occur in New Caledonia, and semi-albinistic varieties, such as the shell illustrated, are collected occasionally in the vicinity of Samarai.
7. *Conus marmoreus* LINNAEUS. These melanistic forms are very interesting. While some are almost completely reddish-black, others are distinctly banded. Rather rare most localities but are easily found in the Admiralty Islands.
8. *Conus pulicarius* HWASS. Abundant in sand patches.
9. *Conus imperialis* LINNAEUS. An attractive and reasonably common shell.
10. *Conus stercusmuscarum* LINNAEUS. Common on or near reefs.
11. *Conus generalis* LINNAEUS. Reasonably common in some localities.





By 6/10

# FAMILY CONIDAE — continued.

*C. virgo*, *C. emaciatius* and *C. flavidus* are usually found on intertidal reefs. The remainder prefer sand patches between coral reefs, and *C. suratensis* and *C. quercinus* are often taken in trawl nets from moderately deep water.

1. *Conus leopardus* RÖDING. A large and heavy shell. Common.
2. *Conus litteratus* LINNAEUS. Large and polished, juvenile shells with three yellow bands. The polished finish and a dark stain at the base of the body whorl separates this species from *C. leopardus*.
3. *Conus betulinus* LINNAEUS. A large, heavy and attractive shell. Reasonably common.
4. *Conus suratensis* HWASS. Uncommon. Resembles *C. betulinus*, but is smaller and less solid and the decoration of fine spots is axially, rather than spirally, aligned.

5. *Conus quercinus* LIGHTFOOT. Young shells coloured deep yellow and with fine spiral lines. Mature specimens whitish with axial growth lines. Very common.
6. *Conus virgo* LINNAEUS. Common. Typical adult shells are whitish, juveniles usually light yellow.
7. *Conus emaciatius* REEVE. Common. Juvenile shells (fig. 7) are off-white to light olive and adults (fig. 7a) are yellow. The 'emaciated' waist readily identifies this species.
8. *Conus flavidus* LAMARCK. Common. Fig. 8 is a typical form and figs. 8a & 8b are unusual colour variants.
9. *Conus eburneus* HWASS. An extremely variable species regarding colour decoration. Fig. 9 is the typical form which is very common and figs. 9a, 9b & 9c are uncommon colour variants.





# FAMILY CONIDAE — continued.

The tent or textile cones. The true textile cone, *C. textile*, may be separated from other members of this group by the longitudinal wavy dark brown lines which are peculiar to the species, with possibly one exception — *C. aureus*. The latter should not cause problems with identification as its narrow form and strong spiral cords are quite distinct.

1. *Conus aulicus* LINNAEUS. Uncommon. Has spiral rows of raised dark ridges.
2. *Conus auratus* HWASS. (of recent authors). The author considers this species distinct from *aulicus*. A rare shell. Has spiral rows of minute pink tents.
3. *Conus gloriamaris* CHEMNITZ. Although no longer a great rarity, the *glory of the seas cone* is still the most coveted collector's item.
4. *Conus textile* LINNAEUS. Common and variable, as indicated by illustrations.
5. *Conus canonicus* HWASS. Reasonably common some localities, particularly in islands of the Bismarck Archipelago. Lacks the axial wavy lines in the colour decoration of *C. textile*, and never attains the size of that species. Often pink or mauve deep within aperture.

6. *Conus crocatus* LAMARCK. A rare and beautiful shell.
7. *Conus retifer* MENKE. Uncommon. A small, chubby little shell.
8. *Conus episcopus* HWASS. (of recent authors). Reasonably common.
9. *Conus omaria* HWASS. Reasonably common.
10. *Conus magnificus* REEVE. A beautiful and moderately rare shell with limited distribution in the central Indo-Pacific.
11. *Conus ammiralis* LINNAEUS. Attractive and uncommon.
12. *Conus aureus* HWASS. A rare shell in good condition.
13. *Conus auricomus* HWASS. Uncommon.
14. *Conus legatus* LAMARCK. A distinctively ornamented shell which is rare in live condition.





# FAMILY CONIDAE — continued.

Exercise caution when handling live cone shells. Injuries inflicted by *C. geographus* (fig. 6) have caused several deaths. Other deadly, piscivorous (fish eating) species featured here are: *tulipa*, *obscurus*, *catus*, *monachus*, *ranunculus*.

1. *Conus vexillum* GMELIN. Common on shallow reefs. Fig. 1a is a juvenile.
2. *Conus miles* LINNAEUS. Common on exposed reef platforms.
3. *Conus figulinus* LINNAEUS. Common. Intertidal to several fathoms depth, in sand and mud.
4. *Conus glaucus* LINNAEUS. In sand in shallow water. Not common all areas.
5. *Conus bullatus* LINNAEUS. A rather rare shell. Solid and bulbous, quite unlike any other species of cone. In coral rubble and coarse sand below the tidal influence.

6. *Conus geographus* LINNAEUS. Reasonably common. Venomous.
7. *Conus tulipa* LINNAEUS. Uncommon, and most attractive. Poisonous.
8. *Conus obscurus* LINNAEUS. Not common. Although small, it is a venomous species.
9. *Conus distans* HWASS. Common. Young shells (figs. 9a & 9b) usually in sand in deeper water.
10. *Conus catus* HWASS. Common. Variable. Poisonous.
11. *Conus monachus* LINNAEUS. Common and extremely variable. A piscivorous species. Fig. 11d illustrates the attractive juvenile shell.
12. *Conus ranunculus* HWASS. Common. Color variable as shown in illustrations. Fig. 12 is the typical form.





By 6/10

#### FAMILY CONIDAE — continued.

The species *striatus*, *floccatus*, *magus* and the shells illustrated by figs. 7, 7a, 7b are all piscivorous species (fish eaters), and dangerous to man. *circumcisis* is suspected of being poisonous.

1. *Conus circumcisis* BORN. Rare. Usually in coral rubble or coarse sand at 15 to 30 metres depth. Fig. 1b is a juvenile shell.
2. *Conus striatus* LINNAEUS. Common on reefs. Fig. 2b is a juvenile.
3. *Conus floccatus* SOWERBY. Moderately rare. Few specimens collected by scuba diving in Bougainville Island and New Britain.
4. *Conus capitaneus* LINNAEUS. Common.
5. *Conus mustelinus* HWASS. Not common. Similar to *C. capitaneus*, but narrower and with more produced spire.
6. *Conus magus* LINNAEUS. Common and extremely variable.

7. *Conus* species, (possibly *C. melancholicus* LAMARCK) Considered a variety of *magus* by some authorities, but the writer believes it to be distinct from that species. Although variation occurs in the colour pattern, the form is consistent. It never attains the size of *magus*. A light-weight shell with a frail lip; narrow at shoulder with roundly convex sides; grooved near base only, smooth above and highly polished. The periostracum is thin and semi-transparent whereas *magus* has a thick and coarse periostracum. Figs. 7 & 7a are typical of specimens from vicinity of Port Moresby, and 7b is from Samarai. Some adult specimens often confused with juvenile *C. striatus*. Compare fig. 7 with fig. 2b. Seldom found alive, fresh dead shells often washed ashore.
8. *Conus carinatus* SWAINSON. Uncommon. Often confused with *C. magus*, but the unmarked white spire and dark apex are distinct.
9. *Conus artoptus* SOWERBY. (*tenellus* Dillwyn of recent authors). Moderately rare.
10. *Conus terebra* BORN. Common.
11. *Conus concolor* SOWERBY. Rather rare species.





By 6/10

## FAMILY CONIDAE — continued.

1. *Conus planorbis* BORN. Colour variable. Reasonably common.
2. *Conus striatellus* LINK. Common inshore in sand and mud.
3. *Conus circumactus* IREDALE. Possibly an uncommon and attractive form of *C. striatellus*. Usually taken off-shore.
4. *Conus vitulinus* HWASS. Common.
5. *Conus litoglyphus* HWASS. Uncommon.
6. *Conus kermadecensis* IREDALE. Reasonably common offshore from N.S.W. to south coast of P.N.G.
7. *Conus spectrum* LINNAEUS. Common. Colour pattern variable.
8. *Conus ebraeus* LINNAEUS. Abundant on intertidal reefs.
9. *Conus chaldaeus* RÖDING. Common.
10. *Conus moluccensis* KUSTER. Moderately rare and very variable. Other names have been applied to extreme variations but the writer, after studying a series collected over a wide range extending from S.E. Asia to Torres Strait in north Qld., is of the opinion that the variations in sculpture detail do intergrade. Anatomical studies will be necessary to settle the problem. Names considered valid by some authorities are:

*Fig. 10* — *C. stainforthi* Reeve. An aged specimen from New Britain. Sculpture comprises evenly spaced smooth spiral ridges with no intermediate sculpture.

*Fig. 10a* — *C. stainforthi* Reeve. Torres Strait, north Aust. Also recorded from Samarai and New Britain in P.N.G. Has raised spiral cords and lower intermediate cords and bisecting incised grooves becoming cancellated in some specimens.

*Fig. 10b*. — *C. proximus* Sowerby. Dredged off Sepik River, P.N.G. Body whorl smooth, but spiral colour pattern similar to following shell.

*Fig. 10c*. — *C. proximus* Sowerby. Intertidal, Samarai, P.N.G. Very prominent smooth spiral ridges with lower intermediate ridges.

All four specimens illustrated have distinctly different sculpture patterns.

11. *Conus pertusus* HWASS. Moderately rare.
12. *Conus varius* LINNAEUS. Uncommon, on heavy reef in shallow water.
13. *Conus arenatus* HWASS. Common in sand. *Fig. 13b* is an uncommon granulated form.





By 8/10

## FAMILY CONIDAE.— continued.

1. *Conus tessulatus* BORN. Common and extremely variable in both form and colour decoration.
2. *Conus stramineus* LAMARCK. Reasonably common. Fig. 2a depicts *forma zebra* which occurs from Torres Strait to southern P.N.G. coast. The specimen illustrated by fig. 2 is typical of the shells from north Qld.
3. *Conus radiatus* GMELIN. Reasonably common offshore in depths to 30 metres.
4. *Conus lividus* HWASS. Common on coral reefs. Forms without the central band are considered by some authorities to be a distinct species, *C. sanguinolentus* Quoy & Gaimard, but both forms live together and intergrade.
5. *Conus moreleti* CROSSE. Less common than *C. lividus* which it resembles. The narrow form, low spire, and smooth body whorl are differentiating characters.
6. *Conus cumingi* REEVE. Moderately rare. In shallow water under coral and stones.
7. *Conus parvulus* LINK. Moderately common inshore.
8. *Conus frigidus* REEVE. Abundant on shallow reefs.
9. *Conus rattus* HWASS. Common on intertidal reefs.
10. *Conus balteatus* SOWERBY. Not as common as previous species with which it is often confused.
11. *Conus muriculatus* SOWERBY. The typical form (*sugillatus* Reeve, of recent authors) is illustrated by figs. 11 & 11a. A very common shell. Fig. 11b has some granules on early section of the body whorl and fig. 11c is encircled by regular rows of spinose granules. The latter form is moderately rare.
12. *Conus floridulus* ADAMS & REEVE. A rather scarce shell from offshore waters.





Nat. size

## FAMILY CONIDAE — continued.

1. *Conus coronatus* GMELIN. Abundant.
2. *Conus miliaris* HWASS. Common.
3. *Conus scabriusculus* DILLWYN. Reasonably common throughout P.N.G.
4. *Conus glans* HWASS. Reasonably common.
5. *Conus columba* HWASS. Uncommon.
6. *Conus parius* REEVE. Uncommon. Usually below tidal influence.
7. *Conus sowerbii* REEVE. (Of recent authors). Rather scarce in live condition.
8. *Conus acutangulus* LAMARCK. Not common.
9. *Conus anabathrum* CROSSE. Moderately rare. Recorded from north Queensland to Samarai.
10. *Conus sponsalis* HWASS. Common and very variable.
11. *Conus musicus* HWASS. Common.
12. *Conus mitratus* HWASS. Uncommon. In coral rubble and coarse sand.
13. *Conus cylindraceus* BRODERIP & SOWERBY. Uncommon in coral rubble.
14. *Conus vimineus* REEVE. Uncommon offshore in sand and mud.
15. *Conus insculptus* KIENER. Uncommon offshore. Live specimens scarce.
16. *Conus aculeiformis* REEVE. Another species usually collected by dredging. Rather rare in choice live condition.
17. *Conus species*. Possibly a form of *C. hopwoodi* Tomlin. Dead specimens common in dredgings in vicinity of Samarai, but live collected shells appear to be rare.





By 7/10

# FAMILY CONIDAE — continued.

Despite considerable research, the earliest qualified names for several shells illustrated on this plate remain unresolved.

1. *Conus pohlianus* SOWERBY. (of recent authors). Moderately rare.
2. *Conus sulcatus* HWASS. Bismarck Archipelago. Reasonably common.
3. *Conus grangeri* SOWERBY. Rarely collected offshore in Bismarck Archipelago.
4. *Conus lynceus* SOWERBY. Uncommon. Figured specimens dredged near Samarai. Fig. 4 is typical of this species and figs. 4a & 4b are unusual colour variations.
5. *Conus mucronatus* REEVE. (of recent authors). Beach specimens common in New Britain but live collected shells rare.
6. *Conus andamanensis* E.A.SMITH. Uncommon in P.N.G.
7. *Conus pilkei* PETUCH. Uncommon.
8. *Conus ochroleucus* GMELIN. Uncommon in live condition.
9. *Conus voluminalis* REEVE. Rare in P.N.G.
10. *Conus gubba* KIENER. Dredged near Samarai.

11. *Conus nussatella* LINNAEUS. Reasonably common.
12. *Conus praecellens* A.ADAMS. Reasonably common offshore.
13. *Conus coccineus* GMELIN. An uncommon and attractive shell.
14. *Conus eximius* REEVE. Rare in P.N.G.
15. *Conus aureolus* SOWERBY. This name applied with reservation. A scarce shell and very variable.
16. *Conus cinereus* HWASS. Reasonably common in Bismarck Archipelago.
17. *Conus nimbosus* HWASS. Off Sepik River, in sand. Considered a rare species.
18. *Conus submarginatus* SOWERBY. Rare in P.N.G.
19. *Conus boeticus* REEVE. Uncommon.
20. *Conus semisulcatus* SOWERBY. Found rarely in New Britain.
21. *Conus luteus* BRODERIP. Occasional beach specimens found near Rabaul.
22. *Conus species*. Dredged from 30 metres near Samarai.
23. *Conus species*. Dredged from 30 metres near Samarai.
24. *Conus papillosus* KIENER. (Of recent authors). Uncommon.





By12/10

# FAMILY CONIDAE — continued.

In some species of cone shells the juveniles are miniatures of the adult shells in both form and colour decoration. Other species feature a remarkable variation through growth stages and identification is difficult without reference to a complete growth series. Illustrated here are a few typical juvenile shells that may assist in classifying the smaller specimens in the collection.

1. *Conus geographus* LINNAEUS. (56-6)
2. *Conus monachus* LINNAEUS. (56-11)
3. *Conus generalis* LINNAEUS. (53-11)
4. *Conus circumcissus* BORN. (57-1)
5. *Conus episcopus* HWASS. (55-8)
6. *Conus ochroleucus* GMELIN. (61-8)
7. *Conus melancholicus* LAMARCK. (57-7)
8. *Conus canonicus* HWASS. (55-5)
9. *Conus litoglyphus* HWASS. (58-5)
10. *Conus vexillum* GMELIN. (56-1)
11. *Conus capitaneus* LINNAEUS. (57-4)
12. *Conus betulinus* LINNAEUS. (54-3)
13. *Conus quercinus* LIGHTFOOT. (54-5)
14. *Conus marmoreus* LINNAEUS. (53-1)
15. *Conus acutangulus* LAMARCK. (60-8)
16. *Conus moluccensis* KUSTER. (58-10)
17. *Conus magus* LINNAEUS. (57-6)
18. *Conus striatellus* LINK. (58-2)
19. *Conus vitulinus* HWASS. (58-4)
20. *Conus planorbis* BORN. (58-1)
21. *Conus parvulus* LINK. (59-7)
22. *Conus muriculatus* SOWERBY. (59-11)
23. *Conus miles* LINNAEUS. (56-2)
24. *Conus litteratus* LINNAEUS. (54-2)
25. *Conus ammiralis* LINNAEUS. (55-11)
26. *Conus coccineus* GMELIN. (61-13)
27. *Conus pertusus* HWASS. (58-11)
28. *Conus tessulatus* BORN. (59-1)
29. *Conus scabriusculus* DILLWYN. (60-3)
30. *Conus glans* HWASS. (60-4)
31. *Conus varius* LINNAEUS. (58-12)
32. *Conus tulipa* LINNAEUS. (56-7)
33. *Conus ebraeus* LINNAEUS. (58-8)
34. *Conus arenatus* HWASS. (58-13)





By 3/10

**FAMILY NAUTILIDAE.** The pearly or chambered nautilus belong to the *Class Cephalopoda*, a highly developed group of molluscs which include the squids, cuttlefishes and octopuses.

1 & 2. *Nautilus pompilius* LINNAEUS. Often washed ashore after storms. Juvenile shells occasionally have an open umbilicus. Examination of several specimens similar to fig. 2 indicates that this is a form of *pompilius* lacking the usual calloused shield over the umbilicus. The opening is deep, narrow and not shouldered about the periphery.

3. *Nautilus macromphalus* SOWERBY. Similar to previous figure in all respects except that the umbilicus is widely open and the periphery of the depression is roundly but distinctly shouldered. Moderately rare.

4. *Nautilus scrobiculatus* LIGHTFOOT. Moderately rare. Figured specimen from Admiralty Group. Recorded also from Samarai.

**FAMILY ARGONAUTIDAE.** Also placed in the *Class Cephalopoda*, the paper nautilus is not a true shell or external

skeletal structure but a fragile container developed by the female of the species for depositing and protecting her eggs.

5. *Argonauta nodosa* LIGHTFOOT. Found on beaches after storms. Similar to *A. argo* but with wider and more flaring aperture. Common.

6. *Argonauta argo* LINNAEUS. Uncommon in P.N.G. but distributed world-wide and common in some areas. Figured specimen is a small shell and this species approximates the size of *A. nodosa*, averaging 220mm. Similar to *nodosa* but has a narrower aperture and lacks the nodules on the bifurcating ribs of that species.

7. *Argonauta boettgeri* MALTZAN. A scarce species ranging from north Queensland to Japan. Similar to *A. hians*, but has stronger tubercles on the double keel and a much smaller aperture.

8. *Argonauta hians* LIGHTFOOT. Uncommon but more often found than previous species which it resembles.





By 2/3

Papua New Guinea land or tree snails are strikingly attractive with many species featuring beautiful colour variations. Some of the Solomon Islands snails are included because of the geological and faunal link with Bougainville Island, a Province of Papua New Guinea.

#### FAMILY CAMAENIDAE.

1. *Papuina hedleyi* SMITH. P.N.G. mainland.
2. *Papuina cingulata* HEDLEY. South coast of P.N.G.
3. *Papuina acmella* PFEIFFER. Bougainville & Solomon Islands.
4. *Papuina meta* PFEIFFER. Bougainville & Solomon Islands.
5. *Papuina miser* COX. Solomon Is.
6. *Papuina allasteri* COX. Solomon Is.
7. *Papuina mendana* ANGAS. Variable. Bougainville & Solomon Islands.
8. *Papuina sellersi* COX. Solomon Is.
9. *Papuina gamelia* ANGAS. Bougainville Is.
10. *Papuina macfarlanei* COX. Bougainville & Solomon Is.
11. *Papuina hermione* ANGAS. Bougainville Is.
12. *Papuina vexillaris* PFEIFFER. Variable. Solomon Is.
13. *Papuina adonis* ANGAS. Variable. Bougainville Is.
14. *Papuina densestriata* FULTON. New Ireland.
15. *Papuina beatrix* ANGAS. Solomon Is.
16. *Papuina fringella* PFEIFFER. Solomon Is.
17. *Papuina migratoria* PFEIFFER. Solomon Is.
18. *Papuina ambrosia* ANGAS. Variable. Solomon Is.
19. *Papuina leinardiana* CROSSE. Solomon Is.
20. *Papuina donnaisabellae* ANGAS. Bougainville Is.
21. *Papuina eddystonensis* REEVE. Solomon Is.
22. *Papuina taumantias* TAPPARONE CANEFRI. Fly River basin, P.N.G.
23. *Megalacron alfredi* COX. Variable. Buka Is., Bougainville Group.
24. *Megalacron boivini* PETIT. Solomon Is.
25. *Megalacron boyerii* FISCHER & BERNARDI. Woodlark Is and eastern P.N.G.
26. *Megalacron lambei* PFEIFFER. New Britain & New Ireland.
27. *Megalacron periwonensis* DELL. Nissan Is., off eastern New Ireland.
28. *Megalacron phaeostoma* V.MARTENS. Extremely variable. New Ireland.
29. *Megalacron admiralitatis* RENSCH. Variable. Manus Is., Admiralty Group.
30. *Papuina rudibunda* TAPPARONE CANEFRI. Fly River basin, P.N.G.



By 6/10

## FAMILY CAMAENIDAE. — continued.

1. *Megalacron tabarensis* RENSCH. Tabar Island Group off eastern New Ireland.
2. *Megalacron tabarensis mahurensis* RENSCH. Mahur Is., Lihir Group, east of New Ireland.
3. *Megalacron tabarensis anirensis* RENSCH. Ambitle Is., Anir Group off eastern New Ireland.
4. *Megalacron spadicea* FULTON. New Ireland.
5. *Megalacron spadicea dunckeri* LESCHKE. St. Matthias Group, north of New Ireland.
6. *Megalacron lufensis* THIELE. Hermit Is., Ninigo Group, west of Admiralty Islands.
7. *Megalacron novaeguineensis creta* RENSCH. Vitu Is., north of New Britain. Extremely variable.
8. *Megalacron novaeguineensis* COX. Admiralty Island Group.
9. *Megalacron klaarwateri* RENSCH. Colour variable. Manus Is., Admiralty Group.
10. *Papuanella ogeramuensis* KOBELT. Vicinity of Mt. Hagen, Western Highlands.
11. *Megalacron melanesia* CLENCH & TURNER. Restricted to lower foothills behind Lorengau, Manus Is.
12. *Rhynchotrochus taylorianus* ADAMS & REEVE. Variable in size and colour. Found over most of P.N.G. and on nearby islands. *R. yulensis*, *R. jucundus* and *R. rhynchotus* appear to merge with certain colour forms of *R. taylorianus* but are considered good species.
13. *Rhynchotrochus williamsi* CLENCH & ARCHER. Trobriand Islands.
14. *Rhynchotrochus strabo* BRAZIER. Similar to and as widely distributed as *R. taylorianus*. Colour variable.
15. *Rhynchotrochus strabo dampierensis* FULTON. A small distinct subspecies from Kar Kar Is.
16. *Rhynchotrochus naso* V. MARTENS. On south coast in vicinity of Port Moresby.
17. *Rhynchotrochus gurgustii* COX. Rossel Is., Louisiade Archipelago.
18. *Rhynchotrochus kubaryi* MOLLENDORFF. P.N.G. Mainland.
19. *Rhynchotrochus rollsianus* SMITH. D'entrecasteaux Group.
20. *Rhynchotrochus albocarinaratus* SMITH. Trobriand Is.
21. *Rhynchotrochus wiegmanni* V. MARTENS. Colour variable. New Britain and Siassi Islands. Abundant in latter area. Figs. 21 & 21a from West N. Britain and Siassi Islands; figs. 21b, c, d, & e, are attractively coloured forms from Kandrian, south coast of New Britain.
22. *Rhynchotrochus woodlarkianus* SOUVERBIE. Woodlark & Laughlan Is., Milne Bay Province.





By 7/10

## FAMILY CAMAENIDAE — continued.

1. *Rhynchotrochus misima* IREDALE. Louisiade Archipelago.
2. *Rhynchotrochus lousiadensis* FORBES. Sudest (Tagula) Is., & Nimoa Is., Louisiade Archipelago.
3. *Canefriula rolandi* IREDALE. Lower reaches Fly River.
4. *Canefriula lacteolata* SMITH. South coast of P.N.G.
5. *Wahgia juliae* CLENCH & TURNER. Mt. Hagen, Western Highlands.
6. *Chloritis quercina* PFEIFFER. Southern Bougainville Is.
7. *Chloritis quercina hombroni* PFEIFFER. Bougainville Is.
8. *Papuina species*. Fly River basin.
9. *Chloritis eustoma* PFEIFFER. Bougainville & Solomon Islands.
10. *Chloritis conamphala* GUDE. Solomon Is.
11. *Chloritis bougainvillei* PFEIFFER. Southern Bougainville Is.
12. *Papustyla pulcherrima* RENSCH. The well known Manus' green snail!

13. *Papustyla hindei* COX. New Britain.
14. *Papustyla xanthochila* PFEIFFER. Southern Bougainville.
15. *Sulcobasis (Goldielix) species*. Fly River basin.
16. *Meliobba mcmichaeli* CLENCH & TURNER. North-west P.N.G.
17. *Meliobba popondetta* CLENCH & TURNER. Popondetta area, north-east P.N.G.
18. *Meliobba goldiei* BRAZIER. Foothills, south coast of P.N.G.
19. *Mecynthera septentrionalis* HEDLEY. Vicinity of Popondetta, P.N.G.
20. *Crystallopsis hunteri* COX. Solomon Is.
21. *Papustyla lilium* FULTON. Choiseul Is., Solomon Is.
22. *Papustyla chancei* COX. Colour variable. New Ireland & east New Britain.

## FAMILY HELICARIONIDAE.

23. *Orpiella compluviata* COX. Guadalcanal, Solomon Is.



#### FAMILY CAMAENIDAE — continued.

1. *Letitia latiaxis* SMITH. South coast, P.N.G.
2. *Letitia chapmani* COX. Rossel Is., Louisiade Archipelago.
3. *Letitia brumeriensis* FORBES. South-east P.N.G.
4. *Letitia brumeriensis combrei* ADAMS & ANGAS. Small and distinct subspecies from Moturina Is., Louisiade Archipelago.
5. *Forcatia globula* RENSCH. New Britain.
6. *Forcatia buhleri* RENSCH. Admiralty Group.

#### FAMILY ARIOPHANTIDAE.

7. *Naninia citrina* LINNAEUS. A beautiful snail from the Huon Peninsula, P.N.G.
8. *Naninia oldhamiana* RENSCH. North-west coast of P.N.G.

#### FAMILY ACHATINIDAE.

9. *Achatina fulica* BOWDICH. A native of Africa, this species was introduced to P.N.G. during the war as a food for Japanese troops. It has spread rapidly and is now a pest throughout the mainland and larger offshore islands.

#### FAMILY BULIMULIDAE.

10. *Placostylus cleryi* RECLUZ. Guadalcanal, Solomon Is.
11. *Placostylus manni* CLAPP. Solomon Is.
12. *Placostylus fraterculus* RENSCH. Solomon Is.
13. *Placostylus almirante* CLENCH. Solomon Is.
14. *Placostylus macgillivrayi* PFEIFFER. Solomon Is.
15. *Placostylus palmarum* MOUSSON. Solomon Is. Possibly a form of *P. almirante*.
16. *Placostylus miltocheilus* REEVE. Solomon Is.
17. *Placostylus hargreavesi* COX. Solomon Is.
18. *Placostylus strangei* PFEIFFER. Solomon Is.





**FAMILY HELICARIONIDAE** — continued.

1. *Nesonanina malleata* RENSCH. West New Britain.
2. *Nesonanina noveahiberniae* QUOY & GAIMARD. New Ireland.

**FAMILY HELICINIDAE.**

3. *Ceratopoma fischeriana* SOUVERBIE & MONTROUZIER. Woodlark Is., Louisiade Archipelago.

**FAMILY CYCLOPHORIDAE.**

- 4 & 12. *Leptopoma perlucidum* GRATELOUP.

**FAMILY TROCHOMORPHIDAE.**

5. *Trochomorpha sebacea* PFEIFFER. Solomon Is.
6. *Trochomorpha xiphias* PFEIFFER. Solomon Is.
7. *Trochomorpha meleagris* PFEIFFER. Solomon Is.
8. *Trochomorpha mcleani* CLENCH. Solomon Is.

**FAMILY RHYTIDIDAE.**

9. *Ouagapia villandrei* GASSIES. Solomon Is.

**FAMILY HELICINIDAE** — continued.

10. *Ceratopoma spinifera* PFEIFFER. Solomon Is.

**FAMILY TROCHOMORPHIDAE** — continued.

11. *Coxia macgregori* COX. New Ireland.

**FAMILY PARTULIDAE.**

13. *Partula flexuosa* HARTMANN. Solomon Is.
14. *Partula incurva* HARTMANN.

**FAMILY HELICARIONIDAE** — continued.

15. *Dendrotrochus cleryi* RECLUZ.
16. *Dendrotrochus cineraceus* HOMBRON & JAQUINOT. Solomon Is.

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## ABBREVIATIONS

P.N.G.	Papua New Guinea
Aust.	Australia
New Brit.	New Britain Island.
Prov.	Province
Pl.	Plate
Fig.	Figure













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